FEEDSTUFFS

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Study of Possible Poultry Legislation Suggested

By GEORGE L. GATES
Editor of Feedstuffs

CINCINNATI — With machinery for bringing the turkey industry under federal marketing orders running in high gear and the ignition switch already turned on for exploration of possible government control moves in the broiler industry, poultry industry leaders gathered here Oct. 24-25 to consider possible vehicles that might be available for reaching greater economic stability.

At the conclusion of the conference the delegates made it clear that they are not ready to buy or even lease a government control van for broilers and eggs, although they realize that it's high time they took more than a casual look under the hood—times being what they are.

Study of Legislation

Among the recommendations accepted for further consideration, as officially released by the conference, was this one:

"While the conference does not recognize legislation as a necessary or ideal solution to industry problems, it does recognize the need for complete study of such legislation as has been or could be proposed to enable industry leadership to give enlightened and informed direction to industry members."

The charge for organizing a task force to continue study of legislative possibilities as well as three other areas of industry initiative was giv-

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Elimination of Hunger Is Goal Of Nutritionists

By FRED E. TUNKS
Feedstuffs News Editor

KANSAS CITY—*What is the use of saying "Peace, Peace" when there is no peace below the diaphragm? . . . Men refuse to work, soldiers refuse to fight, prima donnas refuse to sing, senators refuse to debate and even presidents refuse to rule the country when they are hungry.*

Lin Yutang, a Chinese-American author and philologist originated these phrases, and they were repeated this week at the Centennial Nutrition Conference here as a soul-searching challenge to the scientific and practical talents of American animal agriculture.

Atomic bombs may scare our en-

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What's in the Cards for 1962?

EDGEWATER PARK, MISS. — As a kibitzer looking over the shoulders of card sharks playing "the broiler game," "egghead poker" and "turkey blackjack," a feed industry executive reads from their hands that although future shuffles and deals will redistribute the cards, 1962 could be another rough year in the poultry business.

The way the chips are stacked tells Dr. C. K. Laurent, general manager,

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USDA Reports on Economic Study of Unextracted Soy

WASHINGTON — Soybeans may soon go from producers to local feed mills, according to a U.S. Department of Agriculture report.

"The beans would be cooked and used—unextracted—in mixed poultry feeds," USDA said this week in a news release. "Energy (calories) in feed can be supplied by the oil in the unextracted meal, instead of by the feed grade fat that is customarily used."

These conclusions by economists in USDA's economic research service were obtained from an analysis of published data and from a study of feed manufacturing operations at five

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FEEDSTUFFS *Features This Week*

SERVICE PAYS OFF—A Kentucky firm has built business through a service to beginning feeder pig operations. **Page 18.**

HAMMERMILL EFFICIENCY—Suggestions for better hammermill operation are given in an article appearing on **page 32.**

EGG SHELL QUALITY—Various aspects of egg shell quality are discussed in an article found on **page 34.**

BEEF CARCASS QUALITY—Factors influencing the composition and quality of beef carcasses are discussed on **page 68.**

PELLETS FOR SHEEP—Possibilities in pellet feeding of sheep are reviewed on **page 78.**

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State Officials Call for Broiler Cutback

By Special Correspondent

JACKSON, MISS.—The broiler industry, in an effort to stabilize production and prices, should cut back to a production level comparable with the figures of 1960. This was one of the recommendations in a resolution adopted at a special meeting here of representatives of 11 broiler producing states.

The meeting was called by Gov. Ross Barnett of Mississippi, who had invited 13 states to send representatives.

The four-point resolution adopted by the group asked:

(1) The federal government to step up its program of supplying broilers for school lunches, and schools to buy more chickens on their own.

(2) Placing chicken on the lists of surplus foods bought by the government for welfare programs.

(3) The department of agriculture to step up its exports of chicken, and the state department to cooperate in this effort.

(4) Producers to police their own industry by raising no more broilers next year than were produced in 1960, which was called a comparatively prosperous year.

The meeting was presided over by Gov. Elbert Carvel of Delaware, who called upon the industry to use more self-control by instituting a sound system of cutbacks. He also said

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Mississippi Poultry Assn. Votes for Marketing Orders

BILOXI, MISS.—The Mississippi Poultry Improvement Assn. this week went on record favoring marketing orders as a solution to the poultry industry's financial problems.

At a special session during the association's convention, by-laws were suspended and members voted 12-7 in favor of the broiler marketing orders as outlined in the plan of Phil Campbell, Georgia commissioner of agriculture. Mr. Campbell's plan was

(Turn to MISSISSIPPI, page 4)

Broilers Break 4 Lb.-8 Week Barrier in Test

ATHENS, GA.—Poultry nutritionists at the University of Georgia's College Experiment Station report that they have broken the broiler-growing barrier of 4 lb. in eight weeks in a decisive way.

"Not one but many birds in the University of Georgia test broke through this weight-time barrier which in broiler production is comparable to the four-minute-mile and 60-home-run barriers in the field of sports," the announcement noted.

Dr. Hardy M. Edwards, Jr., poultry nutritionist at the college station in Athens, reports that one pen of eight birds in a recent feeding trial averaged 4.28 lb. per bird with a feed conversion of 1.85 lb. of gain per pound of feed at 56 days. Birds in nine of the 40 pens in the trial averaged 4 lb. or better at the end of 56 days.

For the 40 pens the average weight per bird at 56 days was 3.82 lb. on a feed conversion of 1.87 lb. The final weights and feed weighback of these heavyweight broilers were measured Sept. 29 at 2 p.m.

Dr. Clyde Driggers, head of the university's poultry department, says

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Full Speed on Turkey Marketing Order Action Set

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Commanders of the marketing order technique at the U.S. Department of Agriculture have ordered full speed ahead following sessions here last week of the National Turkey Advisory Committee, and plans are now in the works to start regional hearings about Nov. 14.

Before these hearings are held, however, USDA will make some alterations in the texts of marketing order drafts considered by the industry group last week to give recognition to suggestions made by the big industry committee.

The first national marketing order for an agricultural commodity was recommended late last week by the turkey committee when it decided to submit drafts of proposed marketing orders for turkeys and turkey hatching eggs to Secretary of Agriculture Orville Freeman for review.

The Secretary can issue marketing orders only after public hearings, approval of a "workable plan for market stabilization" and approval by a two thirds majority of producers voting in a referendum, USDA noted.

Some observers feel that the whole procedure can be completed and marketing orders can be in force for the 1962 turkey crop.

After suggested changes are made

(Turn to TURKEYS, page 96)

Purina Acquires Alabama Processor

ST. LOUIS — An agreement has been reached whereby the Ralston Purina Co. will acquire control of Smith's Pride, Inc., of Trussville, Ala., it has been announced by Donald Danforth, Purina board chairman.

Smith's Pride operates a poultry processing plant having a capacity of about 4,800 birds per hour.

The acquisition involves a cash transaction, Purina said. Terms are retroactive to Oct. 6.

Principal minority stockholders in Smith's Pride are A. J. Smith and W. L. Smith. Both will continue in the company's management. Operations and brand names will be maintained as in the past.

Last week Purina announced the acquisition of two Maine poultry firms and the creation of a new department of integrated operations. (Feedstuffs, Oct. 21.)

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Top of the Hopper

WHEREVER POULTRY AND FEED MEN have meetings these days, one of the topics of conversation is the "selling" campaign being used by Washington to bring broilers into the control fold in some manner.

Washington is ready, at the drop of a hat, to rush speakers to poultry meetings anywhere in the South, it seems. Said one poultryman at the National Broiler Council conference in Jackson, Miss.: "Apparently all you have to do is to call a meeting, request someone from Washington to appear on the program and he'll be there!"

Matter of fact, it appears that Washington's effort to "sell" controls to the industry may be boomeranging. Some poultrymen seem to sense that they are being pressured, and they don't like it.

IN OTHER AREAS ALSO there has been complaint from persons not favoring poultry industry controls that USDA officials are going out of their way to build up support for "supply-management" programs for broilers and eggs as well as turkeys.

For example, there was a recent California meeting between Dr. Willard Cochrane, USDA economic advisor, and poultry industry representatives. Sponsorship of the meeting was attributed to organizations on record in favor of control programs, while groups known to oppose controls received late notice of the meeting, according to a Pacific Dairy & Poultry Assn. report. Dr. Cochrane was said to have expressed numerous opinions, all in his judgment justifying if not actually demanding supply-management programs for broilers and eggs. Questions answered during a discussion period were reported to have been screened.

A top man in the industry expressed a fear that USDA and the California Department of Agriculture intended to use the meeting as "justification for an action already contemplated." In his opinion, the meeting simply served as a "rubber stamp justification for establishment of commodity advisory committees known to be favorable to the administration's views."

THERE APPARENTLY IS some very strong support of marketing quota proposals among some segments of the turkey industry, including some of the largest operators. While some persons feel strongly that the government program is the only answer to the industry's dilemma, there are some other pretty substantial operators who feel otherwise. Some of the latter have complained that representation on the turkey industry advisory committee was weighted by USDA on the side of quotas.

The Arkansas Turkey Federation board of directors, in an official statement last week, said, in part: "How can one help but question the intent of USDA when selections to this committee have come directly from the department itself? The Arkansas Turkey Federation represents 80% of the turkey population in Arkansas. But the federation has had no opportunity to help decide or draw up any legislation that would be of interest to the nation's turkey industry. . . . The selections are based upon friendship with the department rather than made on the turkey population in each state. For example, one state that raises some 5 million birds has five men on this committee, while Arkansas, which raises more than 3 million, has only one representative." It also was noted that USDA ignored the federation's suggestions for representatives. Others mentioned certain selections of persons sympathetic to USDA moves.

SOME OF THOSE OPPOSED to turkey industry quotas observed that some operators who grew to large size when turkeys were an uncontrolled

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How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

A majority of feed men report business this week as being good or improved, but there are still those industry spokesmen who report business volume leaves something to be desired.

In the Southwest, business is reported as being greatly improved and the central states region reports demand is broadening. However, volume was off in California where a late season heat wave affected demand.

Cattle feeds are accounting for increased volume each week as more cattle move into feedlots, and dairy feed demand is brisk in some areas.

Broiler feed business is still off through the nation. In some portions of the country, turkey feeds are still moving in volume as growers hold onto their birds for sale at the winter holidays.

The hog-corn ratio, based on Chicago prices, was down 1.2 points this week to 15.1. A year ago the ratio was 15.8.

(Major market roundup and ingredient price quotations appear on pages 94-96.)

Northwest

Most feed men in the Northwest report business this week is on the same level as last week's good volume or higher. Two manufacturers said they had experienced "marked" or "substantial" increases over last week's volume.

One manufacturer said that the attitude in this area where farmers could see large soybean harvests was "wait and see," but it was changed to a buying attitude by mid-week as soybean meal prices continued their climb.

Cattle feeds are picking up and along with a good hog feed volume account for a large share of the feed business. Dairy feeds are moving better, and poultry feeds are a good item for some manufacturers.

One firm reported that its just-concluded booking periods on beef and dairy feeds both ended with greater than expected business on the books. A company spokesman said that dairy business booked was 40% over the firm's expectations.

Prices are expected to be $1 to $4 higher, mirroring higher ingredient costs.

Southwest

Formula feed business in the Southwest is greatly improved due to the increase of cattle feeding. Bookings have increased over last week with most mixers on a full operating schedule of five to six days.

Feed for hogs is still in heavy demand.

The volume of turkey feed is still being maintained at a fairly heavy rate as birds are still on feed. The trend to keep the birds off the market has improved the returns on turkeys that are currently being marketed.

Because of increased cattle feeding, a heavy volume of fced sales is expected for the coming months.

The poor return on eggs and broilers is currently being felt in the slower demand for egg mash and broiler rations.

Buyers will find prices higher with the advance in millfeeds and soybean meal accounting for the increase.

Northeast

Demand for formula feeds backed down in the western New York area as consumers replenished depleted inventories.

Egg mashes were in good demand. Turkey feeds continued to fade, but some birds will remain on feed until Christmas and New Year's for "fresh kill sales."

In the New England states, sales of complete dairy feeds quickened as heavy frosts sent cattle indoors for winter feeding. Egg mashes continued in disappointing demand because of the big drop in the number of birds to feed this year. One spokesman said despite Washington statistics the hatch for egg layers "at least in the New England states" was below a year ago. Estimates put it at 7% to 10% under last year. As a result mixers' volume dropped through the full feeding cycle.

Egg prices in New York rebounded ½ to 1¢ from the previous week's break. In the New England states the egg market "bounced around a little" and ended 1¢ higher. Broiler prices in the latter area held steady at 13½¢ lb.

Running time of formula feed manufacturers in the western New York section declined to 36 hours from 40 hours in the preceding week. In the New England area running time varied widely and ranged from 30 hours to a "slow" 40 hours.

Southeast

Formula feed business in the Southeast is reported as being fairly good. Manufacturers of broiler feeds are still operating at approximately 70% of normal capacity due to the large cut-back on placement of chicks.

Georgia alone, in the last seven weeks, has decreased its placement by approximately 4 million chicks. Prices paid for broilers are practically unchanged at 11¢ to 12¢ lb., f.o.b. the farm.

Continued hot weather and no rain is causing many pastures to dry up and dairy and cattle men are having to increase their usage of roughages and proteins.

Central States

Demand showed some broadening tendency during the past week as feeders and country retail outlets began to replenish inventories more aggressively than earlier in the month.

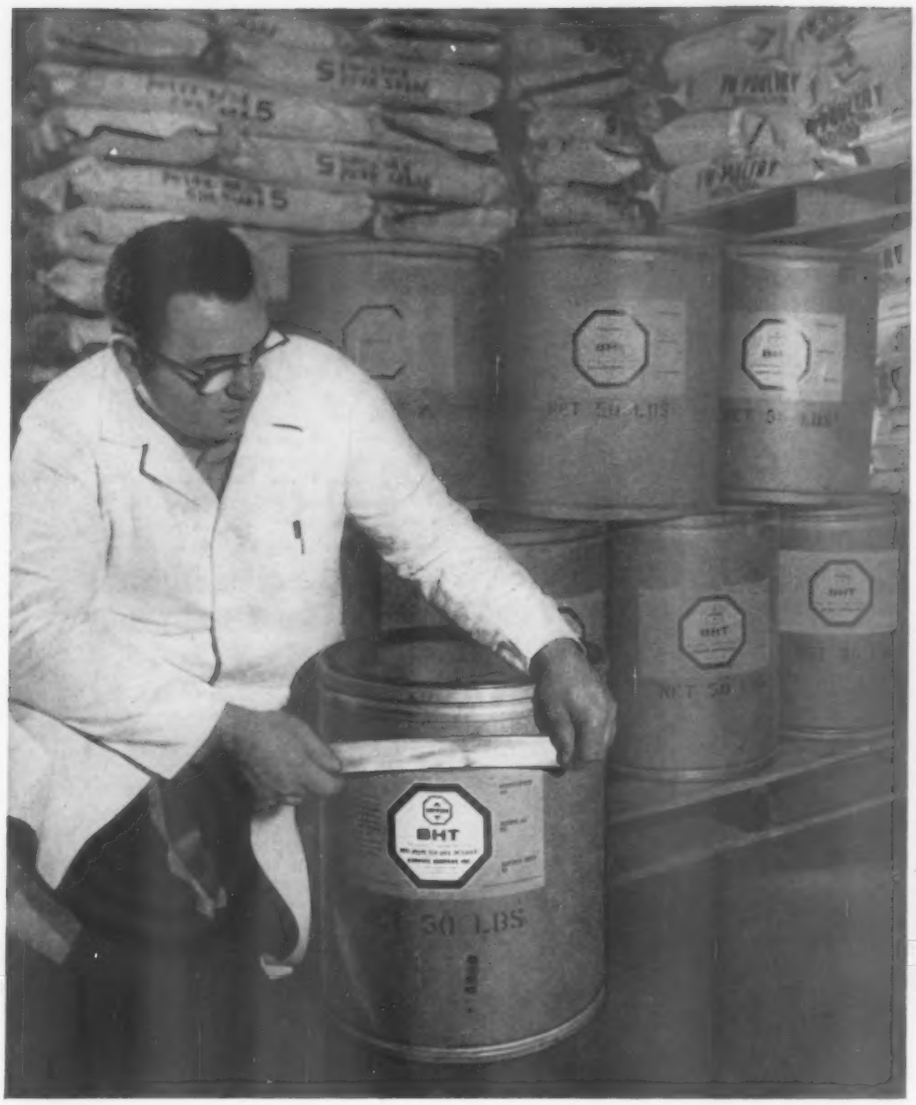
Further recovery in bean meal had its impact on formula feeds, and this, in turn, appeared to stir up more buying interest for feeds. More talk of further cutbacks in broiler plant operations are reflected in call for that type of feed. Laying mash is moving fairly well, and there is a good steady demand for dairy feeds.

The week saw weakness in hog prices, with the top sale $16.60 at the Chicago yards, the lowest since early September last year. However, this is not having much impact on hog feeds at the moment.

South Central

Formula feed demand continues to move along at a healthy pace, with

(Turn to MARKETS, page 99)



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Many Answers Needed Before Industry Can Agree on Controls

CINCINNATI—The broiler industry has to come up with sound and realistic answers to many problem questions before it can seriously think about asking the federal government to devise a method of controlling the supply of broilers.

This situation was implied this week as representatives of national and regional poultry industry groups assembled here to study the possibilities of various production control schemes.

"The real difficult problem is not devising a method of control, but is devising a method of control which will be accepted by all segments of the industry (egg producers, hatcheries, feed dealers, growers and processors) and will be put into law by Congress and the President," said Dr. William E. McDaniel, chairman of the University of Delaware's department of agricultural economics.

On the race track leading to the initiation of government controls are hurdles which, according to Dr. McDaniel, must be cleared before individual members and firms of the broiler industry will be prepared to come together to develop a federal control plan which they would want to recommend to the secretary of agriculture and/or to Congress.

Control of Production

"If market orders are used in the broiler industry," Dr. McDaniel commented, "it seems to me that production would have to be controlled, as I cannot visualize anyone raising broilers and then destroying them to control market supply. . . . I see no feasible and practical way of raising the price per pound (quality remaining constant and with no change in marketing practices) through government programs with the exception of decreasing supply or holding supply constant while population increases. . . . The most logical type of a government program for the broiler industry would be a program which would control the supply of broilers grown."

Dr. McDaniel outlined the following six basic problems ("There are many others the broiler industry will think of") which should be answered satisfactorily by all segments of the industry before recommending any federal control plan:

1. The Broiler Industry Is Composed of Segments—These segments are egg producers, hatcheries, feed dealers, growers and processors.

—Egg producers: If the supply of broilers is decreased, less eggs will be purchased by the hatcheries. How is this going to affect the egg producer? Will quotas be given to each egg producer? If so, will the price paid to the egg producer be supported? If the egg producers are not given some consideration, they will fight a program which will result in their markets being reduced.

—Hatcheries: If broiler production is reduced and quotas are given to hatcheries, which reduces per cent of capacity used, they will want a higher price for their chicks because their costs of hatching per chick will be greater. They will fight a program which does not insure them a higher price per chick.

—Feed dealer: Feed dealers will probably think twice before they support a program which reduces the demand for their feed.

—Processors: Processors on the Delmarva Peninsula are not processing at full capacity at present. When the amount each plant processes is cut back, will not the processors want part of the increased price per pound that the consumer will have to pay for the smaller supply to defray the increased processing cost per pound?

—Growers: Now, I raise the question of how much of the increased price per pound is left for the grower after each of the other segments of the industry is satisfied for the inefficiencies that are forced upon them?

2. Immediate Effect of Supply Reduction on Price May Be Satisfactory, While Long Run Effect of Supply Reduction on Price May Be Unsatisfactory—The immediate effect of supply reduction will probably give a satisfactory increase in price. But as the price of chicken goes up, the consumers will bid up the price of red meats. This will encourage the red meat producers to increase the number of animals produced. In two to four years, the supply of red meat will be increased and the price per pound for the same amount of broilers will drop. What can be worked into the federal broiler program to keep this from happening? A satisfactory answer must be found, if a federal broiler control program is to have a continual beneficial effect to the broiler industry.

3. Many More Consumers Are Being Represented in Congress Than Broiler Producers—How are you going to convince the consumers that they should support a law which would decrease the efficiency of broiler production and result in them pay-

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MISSISSIPPI

(Continued from page 1)

introduced in the final days of the recent session of Congress by Sen. Herman Talmadge (D., Ga.).

The Mississippi action was taken so that industry representatives from that state would have recommendations to present at a 13-state meeting in Jackson called by Mississippi Gov. Ross Barnett. The motion passed following two hours of debate on government control and the self-help approach to the industry's present price problem.

MPIA president H. F. McCarty, Magee, one of the state's major poultry producers, said a large share of the blame for the present situation lies at the door of producers. "The overproduction of broilers is a natural result of an excellent profit year in 1960," he said. "We over-expanded our facilities. Lax credit policies of both private and governmental lending agencies are another cause of the overproduction. Continued and intensified growth and development of loss leader pricing systems in chain stores is a major factor in the present price situation."

He continued, "Our industry cannot escape a measure of blame for this situation either. With the present marketing system, we force our product on the chain stores at ever decreasing prices. To help remedy the situation, poultrymen must concentrate more of their energies on marketing rather than production. We must produce for a predetermined market in which the law of supply and demand determines profits."

Earlier in the convention, Rep. Arthur Winstead (D., Miss.) charged "low broiler prices are not a result of overproduction. They can be traced directly to chain store buying policies."

'How to Get Better'

MADISON, WIS.—Joseph E. Burger, director of public relations for H. V. Nootbaar & Co., Pasadena, Cal., addressed the annual extension conference at the University of Wisconsin, presenting his illustrated talk, "How to Get Better." This presentation has been made before several industry audiences and also before California and other extension people.

PUBLIC RELATIONS—Some of the 100 persons attending the second public relations conference of the American Feed Manufacturers Assn. Oct. 18 in Chicago are shown here. At the time of the photo four panelists were discussing the subject, "Feed Industry Public Relations Problems and Opportunities." Seated at the table, left to right, are: Dr. Robert R. Spitzer, president, Murphy Products Co., Burlington, Wis. (Topic within the public relations area: Viewed by Management); Dexter Obenhaus, owner, Community Feed Mill, Princeon, Ill. (The Smaller Company Approach); George Kyd, manager, publicity department, Ralston Purina Co., St. Louis, Mo. (Working Through Associations), and Paul Johnson, editor, Prairie Farmer, Chicago (As Seen by the Farm Press and Radio).

Thanksgiving Turkey Buying Running Slow

NEW YORK — The lateness of large volume buying for Thanksgiving was of chief concern to the turkey industry this week. Carlot trading has been somewhat less than active, the U.S. Department of Agriculture reports. Chain store buyers were said to be remaining apathetic and a feeling of nervousness existed in trade circles.

Wholesale prices of turkey toms were lowered in most consuming areas during the week ended Oct. 26. Cuts ranged from ½¢ to 1¢.

USDA's live turkey report from Minnesota indicated that Oct. 26 prices for young hens, young toms and fryer-roasters were mostly unchanged from a week earlier. Oct. 26 prices were: Young hens, 17¢; young toms, 15¢, and fryer-roasters, 17¢.

Egg Prices Move To Lower Levels

NEW YORK — The U.S. Department of Agriculture reports that rather drastic price declines occurred in the nation's egg markets early in the period ended Oct. 25—but by the close of the week some stability was noted.

Prices held generally unchanged in the Northeast with the exception of large mixed colors, which trended as much as 2¢ lower. The lower price trend which appeared in most areas this week was a sympathetic response to losses which occurred last week in the Northeast, USDA said.

Prices of grade A's to retailers in Los Angeles were down 2-3¢ on large and mediums and steady on smalls.

In Iowa, prices paid at farms for large eggs were quoted Oct. 25 at 26-34¢, a drop of 3-5¢ from a week earlier. Mediums were quoted at 19-25¢, down 1-2¢, and smalls held at 12-19¢.

Wisconsin Meetings Set

MILWAUKEE—Central Retail Feed Assn., Milwaukee, will hold its annual series of meetings in Wisconsin opening Nov. 6 at the Hotel Eau Claire, Eau Claire. To follow this will be: Nov. 7, Elks Club, Wausau; Nov. 8, Beaumont Hotel, Green Bay; Nov. 9, Elks Club, Fond du Lac, and Nov. 10, Holiday Inn, Janesville. All meetings start at 6:30 p.m.

Speakers and their topics are: Paul W. Mattson, manager, agricultural products division, Morton Salt Co., Chicago, "Mineral Merchandising Myopia"; Walter B. Griem, chief of the state laboratory division, "Latest Feed Facts," and Hiram Hegge, association president, "The Challenge for Business."

Broiler Market To 13c in South

Reflecting the first appreciable effects of seasonal cutbacks in supplies, broiler prices advanced to a high of 13¢ in southeastern producing areas this week. A range of 11-13¢ and a "mostly" price of 12¢ was reported from the south Oct. 26.

This advance, which, at the top, was 1¢ above a week earlier, was expected by the industry (Feedstuffs, Oct. 21, page 1).

A market observer in Georgia said heavy type hens were scarce and some buyers were unable to obtain supplies at a price of around 15¢, f.o.b. plants. Light types were scarce, too, and were priced Oct. 27 in Georgia at around 7¢, f.o.b. plants.

In Delmarva, the broiler market showed a declining trend. Live prices on Oct. 25 were in a range of 12.8-13.8¢ compared with 13-13.9¢ a week earlier.

Blatchford Announces Organization Changes

WAUKEGAN, ILL.—Bert O. Swanson has been named manager of products and production by Blatchford Calf Meal Co., Waukegan, in a recent realignment of duties announced by Frank Boling, president. Mr. Swanson will retain some former responsibilities in the area of sales and sales service. Harold Cowley has been named assistant to Mr. Swanson.

M. D. Canterbury, Ottawa, Ill., who has a background in agriculture and feed sales and service, has been named general sales manager with headquarters in Waukegan. F. E. Jones, vice president and treasurer, and Mrs. E. Makela, assistant treasurer, continue their former responsibilities.

Agri-Business Clinic

COLUMBUS, OHIO—A beginning clinic for agri-business managers will be held Jan. 16-18, 1962, at Ohio State University, Columbus, sponsored by the university's department of agricultural economics and the Ohio Grain & Feed Dealers Assn.

Rogers, Slade & Hill, New York, professional management consultant, will conduct sessions, to consist of lectures and discussions. Additional information is available from John Sharp, professor grain, feed and farm supply marketing, 2120 Fyffe Road, Columbus 10, Ohio.

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"Give the third degree"

Contrary to common usage, this expression originally had nothing to do with police methods of obtaining confessions or information from criminals. The "third degree" originally applied to the final stage of proficiency demanded of those who sought to become master Masons. Before the candidate was qualified to receive the "third degree," he had to undergo elaborate tests of his knowledge and ability.

Feed buyers are cordially invited to subject Small's Dehydrated Alfalfa to the "third degree". As the leader in the dehydrated Alfalfa Industry, Small's operates the most modern facilities for harvesting, processing, testing, storing, and shipping. In your laboratory, test samples from any lot of Small's Dehydrated Alfalfa, and see for yourself how it measures up to—or exceeds—specifications, how well it lives up to the certificate of analysis that accompanies each order. The "third degree" will show you why Small's is the first choice of discriminating feed buyers.

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Questions and Answers on Marketing Orders

WASHINGTON—The U.S. Department of Agriculture has prepared a set of questions and answers on "Self-Help Stabilization Programs with the Use of Marketing Agreements and Orders."

The information on marketing orders as stated by USDA is of particular interest at this time because of current turkey industry consideration of marketing orders and because of speculation among some that marketing order legislation may be sought for broilers and eggs.

The questions and answers deal with marketing orders and agreements in general. It is noted that specific applications of order provisions may vary to some degree among various commodities.

Some USDA officials currently are offering their views on marketing orders to various industry groups.

Following are some of questions and answers as presented by USDA:

Q. What is a marketing agreement?

A. A marketing agreement is voluntary. It is a contract entered into by the Secretary of Agriculture with handlers of a particular commodity. It is binding only to those handlers who sign it.

Q. What is a marketing order?

A. A marketing order is a legal document setting the limits within which an agricultural industry can operate a program of self-regulation. It defines the terms handler and producer, the commodity to be regulated and the area to be covered. It provides for an Advisory Board to administer the order, the number of members, and terms of office. It lists the economic tools to be used, and has procedures for financing provisions of the order, and the penalties for violations.

Q. What role does the government play in a self-help program using a marketing order?

A. By law, final responsibility and authority in carrying out provisions of a marketing agreement or order rest with the Secretary of Agriculture. Traditionally, however, the Secretary has followed the recommendations of the industry board and has participated in the programs to protect the interest of individuals and the general public.

Q. How may a commodity group start a self-help program?

A. The producers get together and select representatives to ask the Secretary of Agriculture for his assistance on their problem. If he thinks the situation warrants it, he may appoint a committee, representing all segments of the industry, to study the problem and submit to him a proposed plan of operation, a supply-management program, a marketing order, or any other action thought necessary.

Q. Are public hearings held?

A. Yes. If the Secretary thinks the initial draft of the proposed marketing order will be helpful, he'll schedule public hearings so that all sides can present their arguments and submit evidence. There can be numerous hearings held in the various regions in which the commodity is grown. Hearings are usually held not less than 15 days after date of publication in the Federal Register. On the basis of what is entered as evidence in the hearings, the Department of Agriculture issues what is called a recommended decision.

Q. Why only a recommended decision?

A. Because those who don't agree with the proposed decision are permitted by law to file exceptions. After these are reviewed, the Secretary can issue a final decision.

Q. What happens after the Secretary issues his final decision?

A. If the Secretary in his final decision has approved the proposed marketing order, it is submitted to producers for approval. They accept it only when two thirds of them, or those handling two thirds of the volume, approve it in a referendum.

Q. What constitutes a two thirds vote?

A. A two thirds majority means two thirds of those voting in the referendum, not two thirds of all growers in the industry.

Q. How is the referendum handled?

A. Usually, voting is by mail, and all ballots are secret. The producer is mailed a copy of the proposed marketing order, and a ballot with a return envelope. County agents' offices can supply ballots also. Producer lists are usually supplied by those interested for or against the proposed marketing order. Means of getting out the vote are strictly up to the industry. The Department of Agriculture, however, pays the cost of the referendum, and its field offices offer their services to conduct the referendum.

Q. Can a cooperative vote in a referendum?

A. Yes, a cooperative can vote as a unit for its members—or the volume produced by the members, if the by-laws of the cooperative permit such a vote. A cooperative may also be the representative of a producer group to propose establishment of a marketing order.

Q. Do handlers vote on a marketing order?

A. No. The Secretary gives handlers an opportunity to sign a marketing agreement containing provisions of the proposed order.

Q. What if the handlers don't accept the agreement?

A. As long as producer approval has been given in referendum, the Secretary is authorized to issue an order anyway, and it is binding on all handlers of the commodity. The Secretary does this when he finds it is the only practical way to carry out the objectives of the Act.

Q. What if a handler still doesn't agree?

A. He can appeal the Secretary's decision to the Judicial Officer of the Department of Agriculture, by special procedures, and the Judicial Officer's ruling is subject to appeal to a District Court of the U.S.

Q. Who is a producer?

A. Ordinarily, a person who assumes ownership risk in producing the commodity. A producer may be defined specifically in orders for particular commodities.

Q. Who is a handler?

A. A person who handles or processes the commodity, and who introduces it into interstate commerce.

Q. Do regulatory provisions in a marketing order apply to both?

A. No, only to the handler. The producer is not regulated in his production. Regulations at the producer level would require the approval of Congress.

Q. Can a producer be a handler?

A. Yes, if he markets his own product.

Q. Does the Secretary of Agriculture prepare the proposed marketing order?

A. No. A proposed order originates with, and is planned by, the commodity group concerned. However, Department of Agriculture experts may be called upon to assist in the preparation of the proposed order.

Q. Is the Secretary's decision on issuing a marketing order, subject to producers' approval, made on the basis of evidence submitted at the hearings?

A. Yes. The proposed program must apply to the problems of the industry, offer a well-founded plan for market stabilization, protect the income of producers and handlers, and protect the consumer.

Q. Can a marketing order program be stopped after it is in operation?

A. Yes. An order may be terminated by the Secretary of Agriculture at the end of a current marketing period whenever more than 50% of

(Turn to QUESTIONS, page 98)

Chick Placements Decrease by 4%

SALISBURY, MD. — The national chick placement figure was down 4% last week, both from the same week a year ago and the previous week. A total of 27,094,000 birds was placed.

Decreases were reported in 17 of the 22 broiler states, compared to the previous week. States in which there was a sizeable decrease were Georgia, Alabama, Pennsylvania and North Carolina.

Hatcheries across the nation set 29,893,000 eggs during the week—1% below the previous week and 6% below the corresponding week a year earlier. Settings were up from the previous week in 12 of the 22 states. Sizeable increases were reported in Virginia, Oregon, North Carolina, Delaware and Arkansas.

Hearings on Turkey Orders to Be Set

WASHINGTON — Speeding up a drive to push through marketing orders for turkeys and turkey hatching eggs, the staff of James T. Ralph, assistant secretary of agriculture for stabilization, is said to be preparing for a series of regional hearings on formal proposals. The hearings, it was indicated, may be held starting about Nov. 14 in at least four areas; one probably would be held in California, one in the Southwest, one in the Midwest and another in the East.

Staff officials said that the four locations should cover the big turkey areas. The California hearing would cover the western area. The southwestern hearing would include such states as Arkansas and Texas. The midwest session would involve Iowa, Minnesota and adjacent states. An eastern session would take in the Atlantic seaboard and extend as far as Ohio or Indiana.

Decision on time and location of hearings was said to await study by USDA of revisions of the two proposals submitted here last week.

There must be at least 15 days after publication of hearing notice in the Federal Register before hearings could begin. After certain "decisions" by the secretary and required approval by the industry, a marketing order could be made effective. An order becomes effective 30 days after publication in the Federal Register, unless an earlier date is set.

Meanwhile, in announcing late last week the advisory committee action to submit drafts of proposed marketing orders to the secretary, USDA noted that certain additional members had been named to the advisory committee. They were listed as Ralph Janes, Austin, Texas; Dennis H. Heeke, Jasper, Ind., and Hoyle Griffin, Monroe, N.C. Earlier the committee had named E. C. Compton, Stanardsville, Va., as chairman, and Howard Kauffman, Waterman, Ill., as vice chairman.

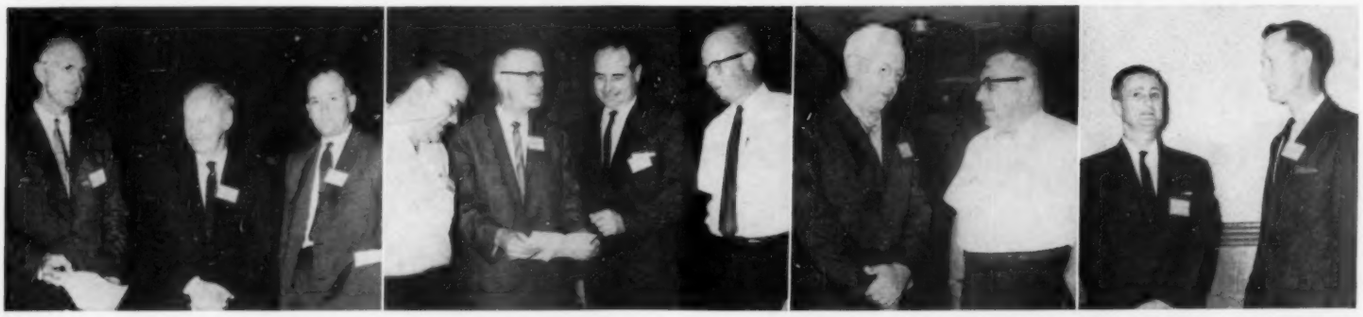
Some observers were predicting that there would be strongly favorable votes in some of the major turkey areas and that the programs would go through.

USDA Will Back Rail Rates Request

WASHINGTON—The U.S. Department of Agriculture will support railroads serving the Southeast in their efforts to obtain lower rates on volume shipments of coarse grain from the Midwest.

Rep. Harold D. Cooley (D., N.C.), chairman of the House Agriculture Committee, said Charles Murphy of USDA notified him the department will back the stand of the railroads

(Turn to RAIL RATES, page 98)



CALIFORNIA CONFERENCE—Among the program participants and feed men at the California Animal Industry Conference in Fresno were the gentlemen shown here.

In the first photo, left to right, are Herb Nootbaar, H. V. Nootbaar & Co., Pasadena, who presided at one of the sessions; Dr. H. R. Bird, University of Wisconsin, a guest speaker, and Dr. F. H. Kratzer, University of California.

In the second photo, the program chairman and three feed men go over some of the program details. Left to right, Dick Kendrick, Foster Farms, Modesto; Dr. H. S. Wilgus, The Ray Ewing Co., Pasadena, program chairman; J. A. Guisasola, Chino (Cal.) Grain & Milling Co., and Joe Tangeman, Ontario (Cal.) Feed & Milling Co.

Third picture—Two of the program committee members were Dr. H. J. Almquist (left), The Grange Co., Modesto, and Robert W. Caldwell, Hayward (Cal.) Poultry Producers Assn.

Fourth photo—T. D. Griffin, Bell Grain & Milling, Inc., Pomona, president of the California Hay, Grain & Feed Dealers Assn., and Leo Johnson, Sacramento, association secretary. The California association and the university sponsored the conference, attended by some 350 persons.

Provisions of Hatching Egg Marketing Order Outlined

WASHINGTON—A draft of a proposed marketing order for turkey hatching eggs for consideration by the Turkey Advisory Committee was made available this week to Feedstuffs by the U.S. Department of Agriculture. (A part of a draft of an order for turkeys appeared in the Oct. 21 issue of Feedstuffs.)

As previously reported, the National Turkey Advisory Committee late last week decided to submit drafts of proposed marketing orders for turkeys and turkey hatching eggs to the Secretary of Agriculture for review. The Secretary can issue marketing orders only after public hearings, approval of a "workable plan for market stabilization" and approval by a two thirds majority of producers voting in referendum.

Just part of the draft of a hatching egg order considered by the industry committee follows.

Among definitions were these: Production area — the 48 contiguous states of the U.S. and District of Columbia; hatching eggs — turkey eggs which are acquired for the production of poults by hatching in incubators; handle—to set hatching eggs, in incubators for the hatching of turkey poults, within the production area; handler—any person who handles hatching eggs, and includes a person who handles hatching eggs of his own production; person—an individual, partnership, corporation, association or any other business unit; producer—any person engaged in the commercial production of hatching eggs and who has a proprietary interest therein.

Portions of the draft dealing with marketing policy and volume regulation follow:

MARKETING POLICY—Prior to the beginning of each allotment year, or, for the initial allotment year, as soon as practicable, the committee shall prepare and submit to the Secretary a report setting forth its recommended marketing policy for the allotment year. Notice of the committee's marketing policy shall be given promptly by reasonable publicity to producers and handlers. In the committee considerations and the report to the Secretary the committee shall include consideration of the probable supply of and demand for market turkeys for the ensuing turkey marketing year, including estimated opening inventory of market turkey in all forms and desirable carryout inventory thereof at the end of such turkey marketing year; the number of hatching eggs which probably should be set in the allotment year to ensure a sufficient supply of market turkeys for consumers, achieve the objectives of the act with respect to hatching eggs and be in the public interest, and such other factors as the committee may deem relevant to any recommendation it may make for regulatory action in the allotment year. The committee may include in its marketing policy consideration and report relevant factors concerning such different regulation by types of hatching eggs and/or by production regions or districts as it may deem suitable and proper. . . .

VOLUME REGULATION — Desirable quantity—Whenever the Secretary finds, from the recommendation and information supplied by the Committee, or from other available information, that such regulation may tend to effectuate the declared policy of the act, he shall establish the desirable quantity of hatching eggs for the allotment year which all handlers may handle in the allotment year, provided, however, that desirable quantities may be established separately for different types of hatching eggs for the production of breeder stock, and for any or all portions of the production area, provided further, that such quantities may subsequently be increased, but not diminished, for the allotment year.

Allocation bases and allotments—Whenever the Secretary has established a desirable quantity of hatching eggs for the allotment year, the Committee shall prorate such quantity among handlers of hatching eggs by assigning to each handler an allocation base and allotment for the allotment year, computed as follows: Provided, that if the Secretary has established separate desirable quantities by type of hatching eggs or by regions, or both, the following computations shall apply to the category applicable to the particular handler or handlers.

(a) **Allocation bases.** Each handler of hatching eggs shall be assigned an allocation base computed, at his option, in one of the following ways:

(1) The handler's total set of hatching eggs in the 12-month period beginning ....., which precedes by two months the allotment period, or in the 24-month period beginning..... which precedes by two months the allotment period, divided by two.

(2) The handler's total set of hatching eggs in the 24-month period beginning....., which precedes by two months the allotment period divided by two; or

(3) A handler who handled no hatching eggs in the period desig-

(Turn to **HATCHING EGG**, page 98)

Charles Klinger

Dr. W. D. Bishop

Program Details Told For Tennessee Event

MEMPHIS—The spotlight of the Tennessee Feed Manufacturers Assn. convention will focus on such topics as feed labeling and the centennial celebration of the land grant college system here Nov. 17 and 18. Setting for the convention will be Holiday Inn of America.

Other subjects of interest to persons in the feed manufacturing industry make up the program for the event, according to Turner Whitworth, past president of the group, member of the board of directors and general chairman for the convention program. Mr. Whitworth is regional purchasing and pricing manager for Nutrena Mills, Inc., in Memphis.

Speaking on feed labeling will be Charles Klinger, product coordinator for Central Soya, Ft. Wayne, Ind. Mr. Klinger has the responsibility for labeling state feed registrations and food and drug applications.

Speaking on the centennial observance of the land grant colleges will be Dr. W. D. Bishop, leader of agricultural programs, University of Tennessee Extension Service.

Presiding at the convention will be D. B. Gambill, president of the association and manager of the Barry Carter Milling Co., a division of Martha White, Inc., Lebanon, Tenn.

Other speakers and their topics will include: "New Trends in Agriculture," Bob Dierks, vice president, grain division, Cargill, Inc.; "Road Maps Are Not Free," W. E. Glennon, president, American Feed Manufacturers Assn., and "Manufacturer's Relationship With Food and Drug Administration," Lee Boyd, director, feed control and nutrition, AFMA.

DIAGNOSE "SICK CHICK"—The diagnosis of what it will take to cure the "sick chick" patient was explained to National Broiler Council members at the convention in Jackson, Miss., after the "doctors" held a consultation. "Doctors," left to right, are Frank Frazier, R. J. Krueger, Barbara Hunter and Murrell Thomas of the NBC staff. The prescription of what the poultry industry will see done by NBC during the next year was mounted on a huge board. (See story, page 10.)

AAFCO Head Asks for 2-Way Cooperation in Feed Control

By GEORGE L. GATES
Editor of Feedstuffs

WASHINGTON—Two-way cooperation between control officials and the feed industry in regulating the manufacture and distribution of commercial feeds and feed ingredients was called for here this week by the president of the American Association of Feed Control Officials during AAFCO's 51st annual convention at the Shoreham Hotel.

His address was the first major talk of the convention, which opened the evening of Oct. 26 with a states relations session and continued through Oct. 27 with other talks and discussions of interest to both control officials and feed men.

PRESIDENTIAL ADDRESS—Welcoming feed industry representatives as participants in the AAFCO discussions, AAFCO's president, Ernest A. Epps, Jr., chief chemist, Louisiana department of agriculture and immigration, remarked: "Control officials are not natural enemies of the feed industry. There is no precedent for believing that actions of this body will be contrary to the best interests of industry.

"Much progress is made when control officials and industry discuss mutual problems with the understanding that cooperation is a two-way proposition. Do you make objections based upon tenuously evolved hypotheses? Are you willing to accept reasonable decisions from control officials even though you would do it another way?"

Mr. Epps asked other questions, too. Here are some of those he directed to control officials:

Understanding chemistry and continued study of new developments—How much time do you spend in the laboratory? Do you understand the problems of your analysts? Are improvements in methodology needed? Should emphasis be shifted from proximate analysis to other nutritional factors?

Sampling—Are your samples properly taken and do they represent goods moving in your state? Are some feeds sampled intensively while others are neglected? Do you really know what goes on in your state?

(Turn to **AAFCO**, page 98)

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SALUTE—The human abilities and the material facilities of the nation's 68 land-grant colleges and universities were afforded special recognition this week at Kansas City during the Centennial Nutrition Conference sponsored by the Midwest Feed Manufacturers Assn. Standing before a backdrop which displays the theme of the conference are, from left: Larry Alley, president, Midwest Feed Manufacturers Assn., and vice president, Pay Way Feed Mills, Inc., Kansas City; Dr. Harold Wilcke of Ralston Purina Co., chairman of the conference, and Lloyd Larson, executive vice president of MFMA. Nearly 400 college and industry representatives attended the conference.

HUNGER

(Continued from page 1)

emies and deter aggression, but they do not feed the hungry half of the world's population. It was concluded here, not officially but in inference, that food is the mightiest weapon in the defense arsenal of the U.S.

This makes the purpose of the Centennial Nutrition Conference more important than ever. Although the "official" theme of the gathering was "100 Years of Service to Mankind," recognizing the contribution of land-grant colleges and universities in their first century of existence, perhaps this recognition should go beyond these formal boundaries. What was said here during the conference sponsored by the Midwest Feed Manufacturers Assn., in cooperation with the land-grant colleges in the association's eight-state area, certainly established our nation's agricultural abilities as one of the greatest hopes for peace in this time of crisis.

The Job Ahead

"The job we have to do is to assure ourselves and the rest of the world that we can continue to feed our growing population and feed them well," said Larry Alley, president, Midwest Feed Manufacturers Assn., and vice president, Pay Way Feed Mills, Inc., Kansas City.

"Through utilizing the facilities of our land-grant institutions and private laboratories, we can continue to take advantage of technological advances in chemistry and make use of the 'magic' new chemicals in agriculture." He said young people must be encouraged to "carry forward this great and growing field of agribusiness."

This challenge was accepted in behalf of the nation's land-grant colleges and universities by Dr. Clifford M. Hardin, chancellor, University of Nebraska. "The future of American agriculture and of all the enterprises it supports is now so involved with the whole of human knowledge and the advancement of it that separation is quite impossible," he said.

"Our agriculture will advance in keeping with the rate of advance we are able to make in the total application of the knowledge we already possess and in our total acquisition of new knowledge. Its benefits will be used and extended according to the values we are able to set for ourselves.

"All of these pursuits take place within the expanding realm of education. It is here that our agricultural future and, indeed, our total future, is being determined. The challenge is universal; it must be accepted, and it belongs to all of us."

Concluding Address

In the concluding address of the conference, the speaker who quoted Lin Yutang, Dr. C. A. Elvehjem, president of the University of Wisconsin, said:

" . . . We must bring together the existing knowledge of nutrition, both human nutrition and the feeding of domestic animals, in all parts of the world. With this information in a form that can be utilized for the purposes of determining nutritional adequacy of the various populations, for comparisons and for planning, we will be in a better position to take the necessary economic, cultural and political steps to help those peoples who now live under difficult circumstances . . . "

The conference held here this week —the first of many events which will salute land-grant colleges and universities in 1961 and 1962—did not bring together all the nutrition knowledge of the world, but it did go a long way toward assembling for posterity the animal and human nutrition intelligence available in the U.S.

All of the papers presented at this conference — which covered subjects from amino acids to feed industry-veterinary profession relationships— were published in a book, "A Century of Nutrition Progress."

The task of feeding the hungry of the world is not easy. Even if the U.S. had enough for everyone, whether in India or Peru, there would be obstacles.

"The U.S. cannot alone meet the challenge of world hunger," said James W. Symington, deputy director of Food for Peace. "Although the Food for Peace Program can greatly help hungry nations, these nations must accelerate their own efforts to provide improved methods of agricultural production and distribution."

This approach to relieving the hunger pangs of the world is necessary, he said, because many foreign nations do not want the U.S. to feed their people, even though they are hungry. Some objectors say importation of U.S. food, traded or donated, upsets economic balances in their countries. And, in many instances, the hungry people themselves reject U.S. food because of custom and habit.

Yes, the U.S. has a big world nutrition job to do. And animal agriculture, of which the feed industry is an important part, has shared and must continue to share this responsibility.

"We've hardly begun to exploit the tremendous potential in livestock research," said Dr. E. C. Elting, deputy administrator, Agricultural Research Service. "Whether or not we do so depends on the research resources we are willing to devote to the job."

OFFICIALS

(Continued from page 1)

federal and state governments should discontinue making loans for expansion in the broiler industry as a means of attaining cutback goals. The industry, he said, is agreed that cutbacks would do much to bring better days to the trade.

On hand were three representatives of the department of agriculture. They were John Duncan, assistant secretary; Roy Lennartson, marketing specialist, and L. E. Juers, staff economist.

States represented were Alabama, Arkansas, Delaware, Georgia, Maryland, Mississippi, Missouri, Virginia, Pennsylvania, South Carolina and Texas.

No Action on Orders

Marketing orders were discussed, but no action was taken. The representatives from USDA were on hand to answer questions and to review technical aspects of marketing orders. However, no action was taken on the part of the group.

B. C. Rogers, large feed and poultryman at Morton, Miss., was one of the speakers at the session and said that, "selfish interests were trying to plunder the industry."

"We are producing too many chickens because of the selfish interests. They have one thing in mind, and that is to condense the poultry business down into the hands of a few so that they can control it," he said.

He also pointed out that the federal government is lending too much money for construction of new houses and that what the industry really needs is a sincere movement to cut back instead of expanding.

Phil Campbell, Georgia commissioner of agriculture and one of the early advocates of marketing orders as devised by the Georgia Feed Dealers Assn., said Georgia had dropped some $21.7 million in the past five months because of market conditions.

Gov. Barnett said Mississippi producers lost $6 million in the last six months. He said Mississippi has been selling for 11¢ broilers that cost 14½¢ per pound to produce.

"Cull Know-Nothings"

Steele Wright, Texas feed and poultryman who represented the state's governor, said the remedy for low prices may be low prices, on a survial of the fittest basis. He said there are too many inexperienced poultry raisers and that the "know-nothings" should be culled.

Mr. Duncan of USDA said that Secretary Orville Freeman has charged the agriculture department to set up a committee to study the poultry situation and pass on its findings to Congress. "We are setting up a broiler and egg committee to hear the industry's problems," he stated. "We are also looking into a situation where all the chain stores seem to act at once to where chicken prices may be 39¢ lb. one day and 14¢ the next. We don't know of collusion, but we are looking."

Mr. Duncan also said that Secretary Freeman may call a meeting of producers and retailers with the idea of promoting price controls.

Gov. Carvel told the conference as federal officials pleaded no money on hand to help the broiler industry that "it is not all a problem of money . . . leadership plays an important role."

Suggestions

Representatives from each of the 11 states told of situations in their area, and some made recommendations.

W. A. Walsh, executive secretary, Alabama Poultry Assn., said, "We must either cut down on broiler production or eat more chicken."

Joe Ray of Arkansas testified that better markets are needed and called for a meeting of chain store operators and poultry producers.

Gov. Carvel said he was opposed to federal controls and urged that federal loans for poultry production expansions be curtailed.

Phil Campbell of Georgia said that poultry is moving on the markets, but that prices were somehow depressed, and called for an investigation.

C. M. Dryden, Maryland agriculture department, said new and more efficient farm-to-market programs should be devised.

B. C. Rogers, Morton, Miss., said that production should be cut back by voluntary action of all poultry raisers, or perhaps by federal order.

Bratton Wallace, marketing director for Missouri, said that controls are needed to bring poultry production into line.

William Henning, Pennsylvania secretary of agriculture, said "there is no common sense in raising more than can be consumed" and that his state is cutting back under a marketing quota plan.

Ryan Chaplin, South Carolina state official, said that he was opposed to any government controls.

Wilbur Walker, executive assistant to the governor of Virginia, said the problem is a matter of solving marketing methods.

Mississippi Vote

Meanwhile, at Edgewater Park, Miss., where the Mississippi Poultry Improvement Assn. was having its annual meeting, a motion was passed urging the endorsement of marketing orders under the terms of the bill introduced by Sen. Herman Talmadge. The vote was 12 to 7. (Also see story on page 1.)

BARRIER

(Continued from page 1)

that this record-smashing achievement is even more remarkable when it is noted that breaking the 4 lb. in eight weeks barrier was not the aim of this feeding trial. The experiment in which the commercially bred birds made record gains was rather a study of the calcium requirement in broiler rations.

Dr. Edwards attributes these record broiler gains to three factors. First, it is a fine tribute to commercial breeders for their development of birds with such a high weight-gaining potential. Second, the rearing and management practices in growing these birds were sound. Third, the ration fed allowed the birds to develop their genetic potential to reach maximum weights in a minimum time.

In Dr. Edwards' opinion, the ration fed these record-breaking birds is not the ultimate broiler ration, however. He believes it can and will be improved upon and that even more efficient broiler gains will be made in the future.

The experimental ration which the Georgia-grown birds received is as follows:

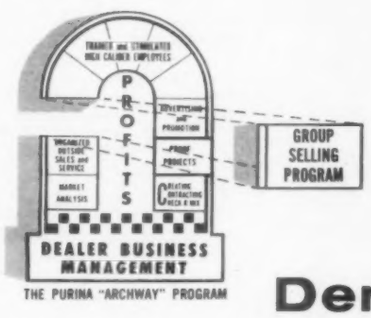
Experimental Ration—Calcium Experiment

Ingredients	Lb./100 Lb.
Ground yellow corn	45.6 to 47.4
Soybean oil meal (50%)	32.00
Menhaden fish meal	7.50
Corn gluten meal	2.00
Alfalfa leaf meal (17%)	1.00
Methionine hydroxy analog	0.05
Blended fat	8.00
Choline chloride (25%)	0.20
Dawes "Forbee" (2-4-9-90)	0.15
Trace minerals (Delamix)	0.20
Salt	0.50
$(NH_4)_2$ HPO_4	1.00
$CaCO_3$ at graded levels to 1.8%	
	gm./100 lb.
Vitamin B_{12} (6 mg./lb.)	4.50
Folic acid (3%)	1.36
Penicillin (4 gm./lb.)	22.70
Vitamin A (325,000 USP/gm.)	1.00
Vitamin D (950,000 USP/gm.)	0.10
Zinc oxide	3.40

Meeting the challenge of the '60's with service

"Sales Partner" Peterson

Purina Dealers in four Iowa counties cooperated with their "Sales Partner" Keith E. Peterson in a feeding demonstration that ended on July 1, 1961. The 50 head of cattle put on an average of 2.37 pounds a day. These pictures show part of the crowd at the meeting which closed the event. A few head of cattle are shown at the feeder.



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Understanding this axiom, Purina Dealers and their "sales partners," the Purina Salesmen, have made feeding demonstrations an important part of their archway of service to animal agriculture. Such demonstrations often are made with the cooperation of a local farmer, feeding a commercial-size lot of stock. At the end of the feeding period, farm folks of the area are invited to inspect the results and to study the carefully kept records.

Demonstrations of this kind have shown many farmers, with facts and figures, not "chin music," the advantages of the right way of selling their grain "on the hoof." The appreciation of farm folks for this service can be seen in the rising tonnage figures of Purina Dealers.

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7. Purina provides a complete line of research-proved sanitation products.
8. A coast-to-coast network of mills serves Purina Dealers.
9. The Purina Salesman and the Dealer have a "Sales Partnership" relationship.
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PURINA...YOUR "PARTNER" IN SERVING ANIMAL AGRICULTURE

National Broiler Council Unveils Its Plans To Step Up Consumption of Chicken Meat

By ROBERT H. BROWN
Feedstuffs Special Correspondent

JACKSON, MISS. — The National Broiler Council, whose job it is to whet the appetites of the nation, unveiled its 1962 plans to increase consumption at a time when the industry is seeking to overcome the problems of low price and overproduction.

With an augmented staff of researchers and contact men, a concentrated drive—probably the most intensive one in NBC's history—is to be conducted all the way from the woman at the cook stove to the retail store level.

Further, greater emphasis is going to be placed on ballyhoo to appeal to the nation's weight watchers since researchers have come up with the conclusion that 17% of the nation's population is on some sort of a diet. These people are to be told emphatically that chicken is the meat for them. In addition, the thrift angle of low-cost poultry is to be stressed, and, come the latter part of next year, chicken is to be sold as a prestige food.

Laying down its plan for an entire year, NBC officials revealed that every segment of the communications industry is to be contacted, including public utilities, whose home economics experts wield influence on housewives and Girl Scouts. At the same time, all of the usual methods employed by NBC in the past will be continued.

Plans Detailed

With only one featured speaker on its program for the two days, NBC officials spent the balance of the annual conference in detailing to members just what will be done to help the "sick chick" industry.

During the year NBC field men will spend more time with processors and retailers urging that chickens be featured more often. Processors will be urged to supplement NBC's efforts with local promotions and contacts.

In addition, the council has come forth with a complete retailer's ad file for the year and this is now in the process of being mailed to all retailers.

The featured speaker, Dr. Samuel N. Stevens, of Stevens, Thurow and Associates, Inc., of Chicago, consultant, stressed that the answer to the poultry industry's problems will be best solved by looking at the long range rather than the short term.

He urged members to continue to promote the idea that chicken be merchandised as the ideal food for weight watchers.

"Protein is in an era of public acceptance right now," he said.

"You are not just in competition with beef and lamb; you are in competition with everything else. Your marketing program must be leveled at the consumer level."

NBC officials departed from the usual method of outlining plans by staging a skit of a hospital room with the patient being the "sick chick." A consultation of "doctors" from NBC outlined the council's rec-

(Turn to NBC, page 90)

A CHICKEN BY ANY OTHER NAME . . .

JACKSON, MISS.—Some research is to be done within the next year to eliminate the confusion in the terminology of broilers, it was revealed by Murrell Thomas of the merchandising division of the National Broiler Council.

Many in the industry refer to the bird as a "broiler," but most retailers use the word "fryer," with the result there is confusion on the part of the public, he said. Fryer is the term used in the industry in some areas, however.

NBC is going to see if it can come up with a more definitive description.

Central Soya Buys Spencer Kellogg's Soy Plant in Ohio

FT. WAYNE, IND.—Negotiations were concluded this week for the sale of the Bellevue, Ohio, soybean crushing plant of the Spencer Kellogg division of Textron, Inc., to the Central Soya Co., Inc. Completion of the agreement was announced jointly by Harold M. McMillen, board chairman of Central Soya, and Fred W. Thomas, division president of Spencer Kellogg.

Operations at the Bellevue plant will be terminated at an early date by Spencer Kellogg. "Central Soya," Mr. McMillen said, "will proceed almost immediately with the operation of the soy processing and grain storage facilities in a manner similar to other company operations. The Bellevue plant will enable Central Soya to serve better the grain trade, as a market for soybeans and other grains, and the feed trade with quality soy products."

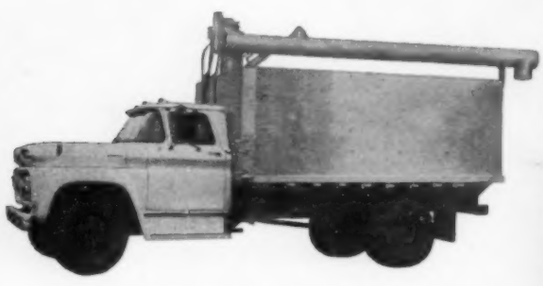
Withdraws from Soy Crushing

Spencer Kellogg's decision to withdraw from the soybean crushing business and to increase efforts in marketing linseed oil products, in research, in the development of new chemical products, and in the manufacture and sale of livestock and poultry feeds was announced recently. The Bellevue, Ohio, plant is the third and last of its soybean plants to be sold.

Central Soya Co., Inc., Ft. Wayne, had sales of $276 million for the year ending Aug. 31, 1960. Central Soya, founded in 1934, operates four major divisions — processing, McMillen feed, grain and chemurgy. It has six other soybean processing plants, eight major feed manufacturing plants and a grain merchandising business, owning approximately 45 million bushels of storage. It is also in the transportation business, operating 120 tractors and trucks and 140 trailers, and a fleet of over 100 barges for transporting soybeans, grains and other feed ingredients on the inland waterway system. Central Soya's chemurgy division manufactures food and industrial soy products which are sold internationally.

Textron Is Diversified

Spencer Kellogg, acquired by Textron, Inc., Providence, R.I., July 28, 1961, comprises Textron's new agrochemical product group. Textron is a multi-industry company with estimated 1961 sales of 9% in the agrochemical product group, 11% in automotive, 18% in consumer, 30% in defense, 18% in industrial, and 14% in textiles.



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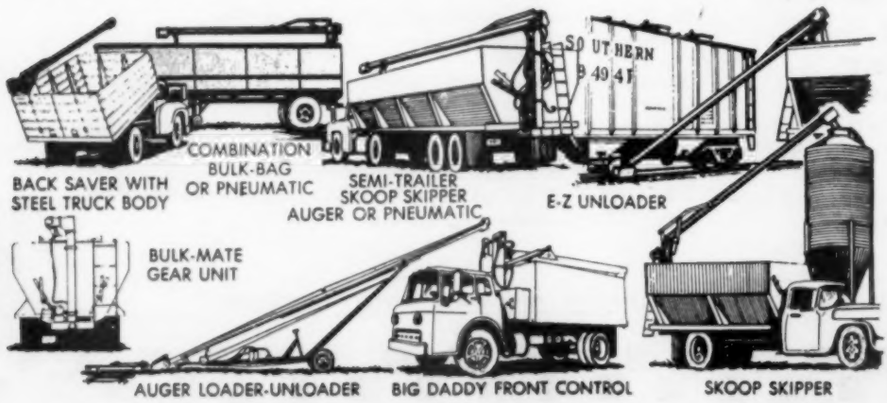

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RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Amprolium May Be Used Up to Market Time, Merck Notes

RAHWAY, N.J.—Amprolium (Amprol), the newest Merck coccidiostat, may now be used in broiler and turkey rations up to marketing time, Merck Chemical Division announced.

"With removal of the withdrawal clause," said James E. McCabe, marketing director for Merck agricultural products, "there will be no need to carry two kinds of rations (medicated and non-medicated), and the Amprol may be used right up to the time the birds move into market channels. There will be no need for poultrymen to shift to another non-medicated ration or to another coccidiostat when birds are nearing market."

Meanwhile, Merck also noted that an amendment to the Food and Drug Administration's certifiable antibiotic regulations will exempt from certification a complete medicated feed that is prepared from a concentrate containing no more than 0.05% amprolium. Concentrate manufacturers who now have clearances to use amprolium from the antibiotic division of FDA may have the restrictive clause requiring customer (local mixer) clearance by FDA removed from these clearances.

Mr. McCabe urged manufacturers to check all clearances for concentrates containing amprolium to see whether they contain the restrictive clause. If clearances do contain the restrictive clause, and if the manufacturer does not now have a letter on file with FDA requesting its removal, he should write immediately to FDA, Mr. McCabe said.

Report Shipments of Feeds in Canada

OTTAWA, ONT., CANADA — Larger quantities of primary or concentrated feeds and secondary or complete feeds, but smaller amounts of "other" animal feeds were shipped in Canada in July and the January-July period this year as compared to last. July shipments were: Primary feeds, 36,517 tons (30,103 a year earlier); secondary feeds, 234,202 (191,656), and other animal feeds, 34,613 (41,443). January-July totals: Primary feeds, 279,968 tons (245,128 a year ago); secondary feeds, 1,620,543 (1,420,672), and other animal feeds, 277,418 (307,961).

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Speaker Says Choose Between Short or Long Term Broiler Problems Solution

By ROBERT H. BROWN
Feedstuffs Special Correspondent

JACKSON, MISS.—The broiler industry must decide whether it is to have a short term solution to the problems of overproduction and prices or whether it is to look at the long-range picture and build for the future, members of the National Broiler Council were told at this annual conference here by the head of a consultant organization.

If the industry is interested in only a short time solution, then marketing orders and controls may be the order, but, if the industry wants to prepare for the long haul, it must take a look at the future to see what can be done to better equip itself for the business that can be had, Dr. Samuel N. Stevens of Stevens, Thurow and Associates, Chicago, said.

"If you think for one minute marketing orders are going to stabilize prices, you are badly mistaken. I prefer to look at the long range to see what can be done beyond the 30, 90 or 120 days' business period," he said.

The long-term plan might promise some relief in profitability by increasing per capita consumption just 5 lb. per person.

The broiler industry has one of the strongest sales arguments today of any industry, he said, in that the people of this country are more protein conscious from a calorie standpoint than ever before. "Protein is now in an era of public acceptance."

Dr. Stevens' remarks were made at the opening session of the conference, where plans for 1962 marketing methods by NBC were unfolded. These plans involved more concentration on chicken as a value item, calorie content from a consumer angle and more concentrated cooperation with the retailer level.

Troubles Not New

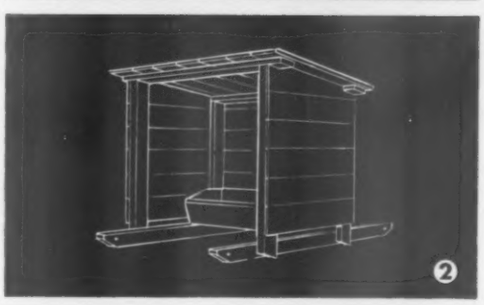
The troubles of the broiler industry are not new, Dr. Stevens said. "This is not a new experience. It is almost as old as the industry itself. Changes which have occurred during the last decade have accentuated the problems which threaten

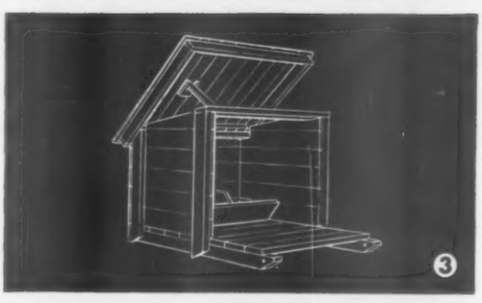
(Turn to SPEAKER, page 85)

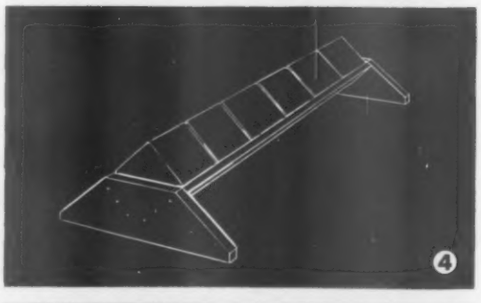
BUSINESS INCENTIVE

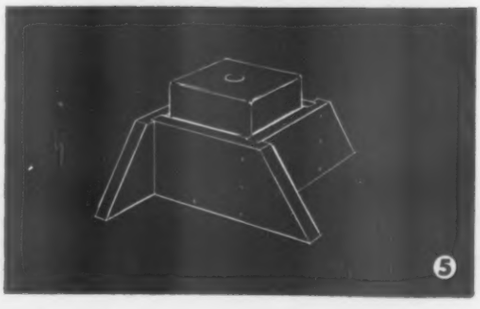
JACKSON, MISS. — Conversation overheard at the National Broiler Council annual conference:

"We've got to get this broiler business going. Jimmy Hoffa's in trouble now, and, since he offered to help out the chicken business, we may have to bail him out now."









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Broiler Men See Washington 'Pressure' for Market Orders

By ROBERT H. BROWN
Feedstuffs Special Correspondent

JACKSON, MISS.—During the recent National Broiler Council meeting, there was considerable unofficial conversation among broiler men about what they called the "apparently well laid plans of Washington to go ahead with plans for marketing orders immediately after the first of the year."

U. S. Department of Agriculture people, it was said, are working on the premise that some kind of plan will be adopted. Considerable criticism was heard regarding reports of "pressure" being applied by Washington to bring the broiler business into the marketing order fold.

It was noted that it was revealed at a Kentucky meeting by Dr. James Ralph, assistant secretary of agriculture, that his office had sent wires to 26 or more broiler industrymen extending an invitation to serve on a national advisory committee.

His statement was interpreted as the first step in the formation of a committee which would act in an advisory capacity and also to conduct studies.

Dr. Ralph said that most other segments of the nation's economy, and particularly agriculture, already have marketing orders or at least some plan of controlling economic factors.

"We feel that we have a mission to promote and protect the American way of life for agriculture," he said.

Then he went into considerable detail to point out that even the medical profession has some control of conditions by means of examinations by federal boards to supply the control of doctors.

The broiler industry, he said, has efficient production but is one of the least profitable industries in agriculture, due to overproduction.

Production control, he said, might be applied on a straight percentage basis, but on the other hand he said he could not say because it would be up to the committee to recommend a program to the industry.

He said in all probability the grower and the dealer would be the ones who would be eligible to vote. This would be the owner, the fellow who takes the risk, he said.

In his talk he drew a parallel picture of what controls have accomplished in the tobacco world. This has worked, he said, but admitted there may be some changes in the minimum allotment plan.

Who is yelling the loudest for marketing orders? It was generally felt here that the man most frequently heard in favor of them is the grower.

Also it was the consensus that much is going to depend on which way the market goes the next two months. Nothing would make the growers forget about marketing orders any faster than a rising market. On the other hand, a return to dime a pound broilers will only hasten the day when some sort of government controls are instituted.

Meanwhile, a new organization in Georgia, the Southeastern Poultry Growers Assn., has voted for production quotas and price supports. The vote was taken at a meeting in Tifton, according to Tom Stone, secretary, Douglas.

Testing of Chickens Up, Turkeys Down

WASHINGTON—Testings of chickens were up, while testings of turkeys, for the most part, were down both during the month of September and the period July through September as compared to 1960, according to the U.S. Department of Agriculture.

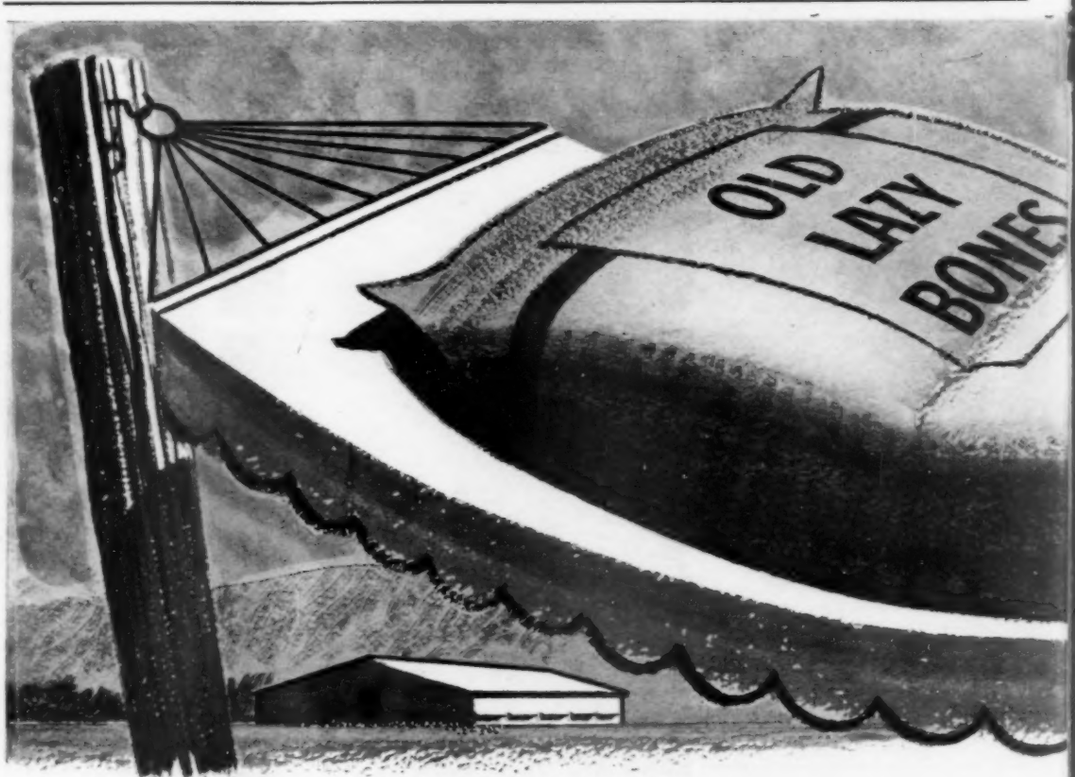
There were 2,439,432 chickens for supplying broiler hatching eggs tested during September, 6% more than September, 1960. The cumulative July through September total was 6,277,698, up 12% from these months a year ago.

Chickens tested in September for supplying eggs for egg-type chicks totaled 783,895, about the same as in the comparable month of 1960. Testings July through September were 1,646,876, up 5% from these months in 1960.

Heavy breed turkeys tested during September for pullorum disease numbered 2% less than those tested in September, 1960. The September, 1960, total was the largest since records began in 1952.

Testings of heavy white breeds were 8% larger than in September, 1960—172,017, compared with 159,349 in September, 1960. Testings of other heavy breeds (mostly broadbreasted bronze) were 8% smaller than in September, 1960. The number tested totaled 219,330, compared with 239,130 in September, 1960.

July through September testings of heavy white breeds totaled 409,644—up 20% from this period in 1960. Other heavy breeds tested July through September numbered 379,868, down 16% from the same months in 1960. Light breed turkeys tested during September totaled 15,220—down 65% from a year earlier. Testings July through September totaled 52,125—down 44%. Testings of all breeds July through September, 1961, totaled 841,637—down 5% from the same period in 1960.



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Report on Hot Weather Layer Studies

FRESNO, CAL.—A further progress report has been made on studies of the effects of hot weather on egg production and feed efficiency.

About a year ago, Dr. Floyd Hixson of Fresno State College and Louis Golden of the Amburgo Co., Inc., reported improved results obtained by using a higher protein, higher vitamin layer ration for summertime feeding in the San Joaquin Valley of California.

This work has now been conducted for a second year, with "equally good results," it was reported this week.

In comparison with the results reported last year, which showed a 10-month average egg production on the experimental feed of 217.7 eggs per pullet and a feed conversion just under 4.5 lb. of feed per dozen eggs, the results with 1,249 pullets this year show 217.6 eggs per pullet for 10 months of lay, with an average feed conversion of 3.92. "These results show the remarkable consistency of our present day pullets for laying eggs when fed scientifically designed feeds," the report said.

The improvement in feed conversion over last year was attributed largely to an increase in dietary energy based on published recommendations by Dr. Fred Hill, head of poultry husbandry, University of California, Davis. From Aug. 1 to Feb. 1, the pullets were fed a "Hot Weather Layer Ration" containing 17% protein and 1,245 calories of metabolizable energy per pound. During the cooler weather of February, March and April, the hens received a "Cool Weather Ration" containing 17% protein and 1,275 calories of metabolizable energy per pound.

"We have found Dr. Hill's metabolizable energy values for feed ingredients most accurate, and his energy recommendations extremely helpful in improving the feed conversion of our layer flock this year," said Dr. Hixson, professor of poultry husbandry at Fresno State. "We are also very interested in the work of Dr. M. L. Scott at Cornell University, Ithaca, N.Y., with methionine in high energy laying rations. We plan to study adaptations of this work under San Joaquin Valley environmental conditions."

Since 1959, Fresno State College and The Amburgo Co. have conducted a cooperative poultry research program "in an effort to help California poultrymen make our hot weather work for them, instead of against them," said Dr. Hixson.

"Hot weather feeding has been a problem that California feed mill nutritionists have been aware of for a long time," Dr. Hixson observed. "Some of them have been doing advanced work in this field, and we hope that the additional information provided by these studies will prove helpful."

General Mills Names President, Chairman Of Board of Directors

MINNEAPOLIS—E. W. Rawlings, executive vice president since April, 1960, has been named president of General Mills, Minneapolis, by the board of directors.

C. H. Bell, who has been president since June, 1952, was elected chairman of the board to succeed Gerald S. Kennedy. Mr. Kennedy will continue as chairman of the executive committee of the board. All assignments become effective Dec. 1, 1961, the beginning of the second half of the company's fiscal year.

Mr. Rawlings, 57, joined General Mills in 1959 upon retirement from the air force in which he was a four star general. He was appointed executive vice president, heading finance and consumer food activities, in April, 1960, and executive vice president for all operations and finance June 1, 1961.

Mr. Bell, 54, son of the late James F. Bell, founder of General Mills, joined the company in 1930 after attending Yale University. He has served in many capacities in the company, and has been a member of the board of directors since April, 1948.

Mr. Kennedy, 67, is a veteran of 47 years with General Mills. He became chairman of the board in January, 1959.

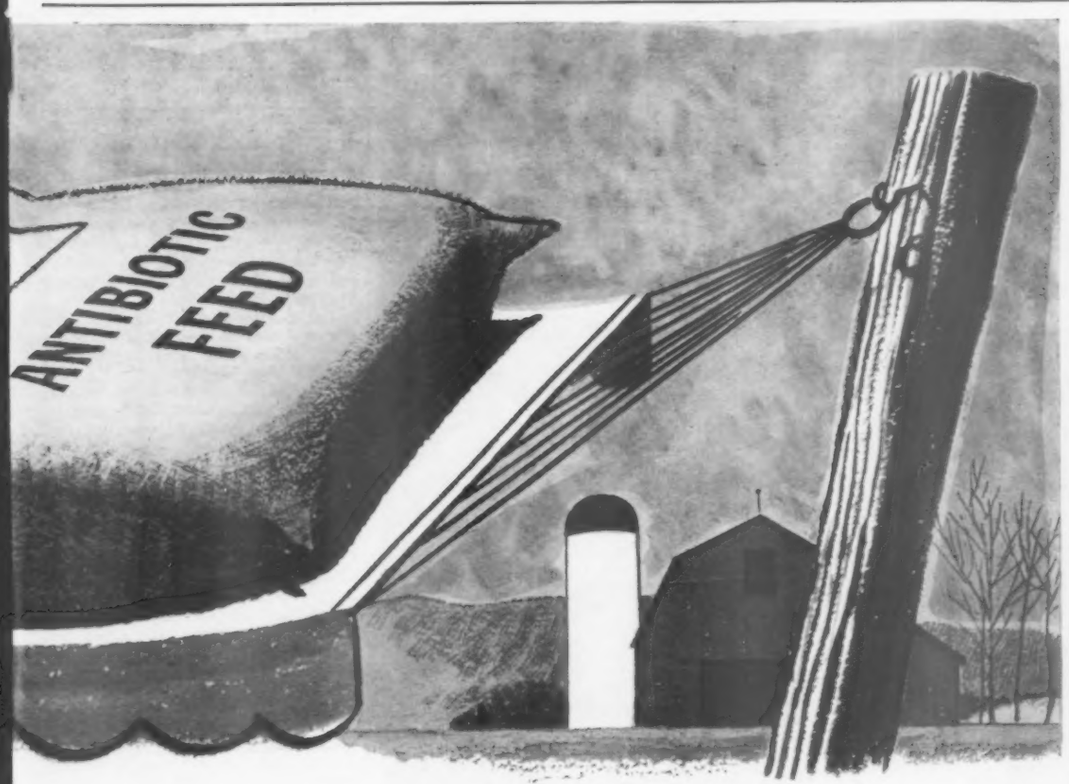
Chemical Firm Plans Piperazine Facility

HOUSTON — A new unit for the manufacture of piperazine will be erected by Jefferson Chemical Co. at its Conroe, Texas, plant site, it has been announced by J. D. McPherson, president.

Mr. McPherson said this represents a major step in the company's plans for expansion at Conroe in the field of specialty chemicals. He stated that the new unit, which will appreciably increase Jefferson's production of piperazine, will be completed during the second quarter of 1962.

Piperazine is an ethylene oxide derived chemical used as an anthelmintic and has been proven effective in deworming of swine and poultry, the announcement said.

Currently, piperazine is being produced in a semi-commercial unit at the Austin laboratories of Jefferson Chemical Co. The Conroe installation will free these facilities for large-scale development work on new products and processes. Several piperazine derivatives are also included in the expansion project, according to Mr. McPherson.



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Antibiotic levels fed first 3 weeks only	Percent resistance at weekly intervals** 2	3	4	6	8
500g/T tetracycline-type	74%	71%	39%	16%	5%
200g/T tetracycline-type	38%	54%	43%	9%	0%
150g/T tetracycline-type plus 50g/T Baciferm	8%	11%	9%	6%	1%
100g/T tetracycline-type plus 100g/T Baciferm	10%	7%	5%	3%	2%
200g/T Baciferm	**0%**	**0%**	**0%**	**0%**	**0%**

*Potentiation gives average blood levels of 0.5 mcg/ml.
**No data were obtained during first week.

In this test, the antibiotics were fed for the first three weeks. Bacterial resistance was measured at weekly intervals.

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Wirthmore Head Reviews Diversification

WALTHAM, MASS.—At a recent series of sales meetings, Granville M. Bond, president of Wirthmore Feeds, Inc., reviewed the development of new "non-feed" products now being sold through company-owned stores and by independent Wirthmore dealers.

Mr. Bond said these products include building supplies, hardware, lumber, lawn and garden supplies, seeds, fertilizers and a variety of products under Wirthmore's "Big-W" brand. He pointed out that Wirthmore plans an aggressive program of expansion into other lines "that fit into our established pattern of distribution through feed dealers."

He stressed that this will not affect Wirthmore's long-time policy of providing a complete range of farm feeds and service, but will enable its dealers to increase sales and margins in order to improve their profit pictures.

Plans for Wirthmore's fall dairy feed promotions, which will feature Wirthmore's all-pelleted feeds and a new calf feeding program, were outlined by E. A. Sypher, director of dairy sales. "A new lower-priced but improved Hi-Ener-G 16 poultry feed will spearhead the fall poultry program," according to Larry Peterson, poultry sales director. A comprehensive promotional program to back up these sales efforts was outlined by E. S. Moore, advertising director.

The meetings were held in Framingham and Chicopee, Mass.; Montpelier, Vt.; Concord, N.H.; Waterville, Maine; Scranton, Pa., and Toledo, Ohio.

Personnel promotions and announcement of a system of new sales areas highlighted the meeting programs. Robert Emmons is general manager of Wirthmore's new feed marketing division, and John Schuhle is general manager of the diversified products division, both located here.

New promotions include: Guy Ryan, Concord, N.H., from plant manager to area sales manager, covering New Hampshire and northeastern Massachusetts; Frank Collingwood, Burlington, Vt., from district sales manager to area sales manager, covering northern Vermont and northeastern New York; F. James Wright, Randolph, Vt., from store supervisor to area sales manager in central and southern Vermont; Mark C. Devereux to division sales manager in Toledo, Ohio; Sumner A. Claverie to division sales manager in New England; George Enderly to division sales manager in Olean, N.Y.; Edward Button, Fostoria, Ohio, from livestock sales and service to district sales manager in central and northern Ohio; Chester Sim, Danville, Pa., from district sales manager to assistant division sales manager, Olean, N.Y.; George Vernooy, Tunkhannock, Pa., from livestock sales and service to district sales manager, and Robert Tuman, Honesdale, Pa., from store salesman to livestock sales and service.

BROILER SUPPLY FLOCK PLACEMENTS OFF 16%

WASHINGTON — Domestic placements of pullet chicks for broiler hatchery supply flocks by leading primary breeders totaled 2,049,000 chicks during September, down 16% from the 2,429,000 of a year earlier but 38% more than September, 1959, according to the U.S. Department of Agriculture.

Total placements (domestic plus exports) were reported at 2,242,000 compared to 2,641,000 a year earlier. Domestic placements of pullet chicks by leading primary breeders during the first nine months of 1961 totaled 24,582,000—8% more than during the same period of 1960.

The primary breeders included in this report account for a very large percentage of total supply of replacement pullets for broiler hatchery supply flocks, the department said. Sales of replacement pullets by these breeders provide an indication of the potential number of pullets available for addition to hatchery egg supply flocks several months before the pullets will actually move into the flocks, it was explained.

Virginia Nutrition Program Planned

BLACKSBURG, VA. — Discussions by nutrition scientists and educators will be featured at the Land Grant Centennial Conference on Nutrition to be held at Virginia Polytechnic Institute Nov. 3-4.

The conference will feature as a companion event the dedication of the new million dollar VPI biochemistry and nutrition building.

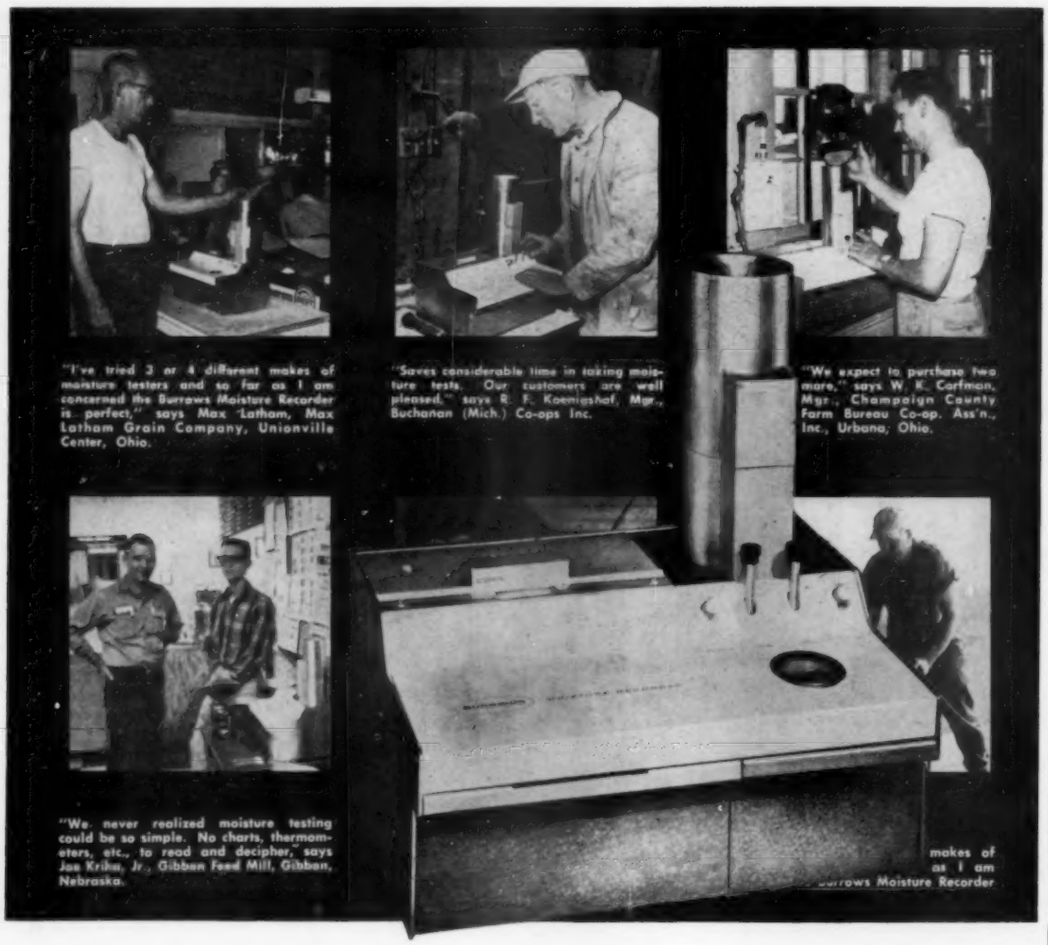
Subjects to be covered at the conference include nutritional needs of man, animal nutrition research, food processing, food additives and their relation to human nutrition and health, and other topics.

Speakers will include Dr. R. W. Engel, head, VPI department of biochemistry and nutrition; Dr. W. J. Darby, Vanderbilt University school of medicine; Dr. W. W. Griffith, University of California medical school; Dr. C. G. King, the Nutrition Foundation; Dr. L. A. Maynard, Cornell University; Dr. F. S. Draft, National Institute of Health; and Dr. Paul Gyorgy, University of Pennsylvania school of medicine.

Many discussion leaders from universities, public health agencies, and private industry will also be present.

Joint sponsors of the event are the National Dairy Council, the Nutrition Foundation, and the VPI agricultural experiment station.

Participating in the building dedication will be representatives of the Virginia Department of Agriculture, the Rockefeller Foundation, and the National Institute of Health.


"I've tried 3 or 4 different makes of moisture testers and so far as I am concerned the Burrows Moisture Recorder is perfect," says Max Latham, Max Latham Grain Company, Unionville Center, Ohio.
"Saves considerable time in taking moisture tests. Our customers are well pleased," says R. F. Koenigshof, Mgr., Buchanan (Mich.) Co-ops Inc.
"We expect to purchase two more," says W. K. Corfman, Mgr., Champaign County Farm Bureau Co-op. Ass'n., Inc., Urbana, Ohio.
"We never realized moisture testing could be so simple. No charts, thermometers, etc., to read and decipher," says Joe Krikac, Jr., Gibbon Feed Mill, Gibbon, Nebraska.
makes of
as I am
Burrows Moisture Recorder

A Major Breakthrough in Moisture Testing!

Recent discoveries in electronics have resulted in a moisture tester that tests all grains directly, quickly and accurately. Only the Burrows Moisture Recorder offers you all these advantages.

Accurate—Balanced electronic circuit is self-adjusting.

No charts—Direct moisture percentage reading on a lighted dial. Human errors eliminated.

Automatic temperature correction—No separate temperature tests.

Fast—Complete reading in 5 seconds.

Printed tickets—Moisture percentage can be printed on scale ticket automatically.

Automatic wt. per bu. correction—Patented test cell adjusts for all variations.

Large 250 gram sample.

10 day free trial.

Liberal trade-in allowance.

For complete information write, wire or phone—

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SNOW WHITE
BRAND
PURE REEF
OYSTER SHELL
• Yields Better Eggs • More Digestible
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At your favorite feed dealer
WHITE SHELL CO.
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Enzymes are not new... enzymes that work are

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Nopgro is most beneficial in

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AND NOW THAT NOPGRO IS OUT OF THE LABORATORY · AND INTO THE FEEDLOT

here are three rules of thumb for your consideration

1. Feeding Nopgro increases gains by 0.25 lb. per head, per day.

2. It takes gains of only 0.02 lb. per head, per day, to pay for Nopgro.

3. In 82% of the last 17 field trials, Nopgro brought extra profits averaging $2.90 for every 60c spent for Nopgro.

Find out more about Nopgro, the feed additive for this decade. Let us prove to you that low-protein rations, with just a pinch of Nopgro, will perform as well as medium-protein rations . . . or better. Fill in and mail the coupon.

Nopco Chemical Company
Newark, N.J.

Please send me your round-up of facts about Nopgro.

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Basic producers of Micratized® Vitamins A and D, niacin, calcium pantothenate, enzymes and other products

Purdue University:

In laying rations there were no differences between the soft phosphate and dicalcium phosphate groups noted.

Soft Phosphate can be used satisfactorily for replacement stock.

It is economically feasible to use soft phosphate and at the present time rations can be supplemented with soft phosphate in place of dicalcium phosphate at lower costs.

SOFT PHOSPHATE, INC.
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A Natural, Research-Proven, Sensibly Priced Phosphate That Has Fortified More Than 100,000,000 Tons of Feed

Turkey Breeder Flocks' Heavy Hens to Be Steady; Lights Down

WASHINGTON — Turkey breeder flock owners in 15 of the most important turkey production states expect to hold about the same number of heavy breed hens but 24% fewer light breed hens at the beginning of the 1962 hatching season than retained a year earlier.

The U.S. Department of Agriculture states that these states accounted for 81% of all turkey breeder hens on hand Jan. 1, 1961. The department points out that breeders plan to have 18% more heavy white breed hens but 8% fewer bronze and other heavy breeds than in 1961.

USDA noted that testings for pullorum disease July through September, 1961, were down 1% from the same period last year for heavy breeds and down 44% for lights. Testings of heavy white breeds in this period were up 20%, nearly offsetting a decrease of 16% in bronze and other heavy breeds.

Previous years' Oct. 1 intentions to hold heavy breed hens compared with the changes in number of hens on hand in the U.S. the following Jan. 1 were: Oct. 1, 1956, intentions, 16% increase, following Jan. 1, 15% increase; in 1957, intentions, 4% decrease, Jan. 1, 8% decrease; in 1958, intentions, 7% increase, Jan. 1, 7% increase; in 1959, intentions, 2% decrease, Jan. 1, 5% decrease; and in 1960, intentions, 26% increase, Jan. 1, 30% increase.

Breeders in California report that their present intentions are to retain 90% more heavy white breeder hens than last year. This 90% increase accounts for most of the 18% increase in heavy whites recorded in the national total.

Breeders indicated decreases for other heavy breed hens in nine states, ranging from 3% in both New York and Pennsylvania to 25% in Missouri. Oklahoma, Iowa, Michigan and Ohio expect increases in other heavy holdings of 20, 7, 5 and 2% respectively, while Wisconsin and Oregon expect about the same numbers as last year. The two most important states in the population of light breed hens, Virginia and Minnesota, expect to reduce holdings of lights by 25 and 15%, respectively.

TABLE 1. Turkey Breeder Hen Intentions 1962 Hatching Season

State	Intentions to hold turkey breeder hens at beginning of 1962 season as % of holdings a year earlier		
	Heavy breeds		Beltsville & other light %
	Heavy white %	Bronze & other heavy %	
New York	100	95	*
Pennsylvania	90	95	90
Ohio	100	102	80
Michigan	98	105	*
Wisconsin	98	100	*
Minnesota	99	92	85
Iowa	80	107	85
Missouri	130	75	85
Virginia	92	83	75
So. Carolina	*	80	*
Oklahoma	109	120	67
Texas	100	90	40
Washington	*	80	*
Oregon	130	100	75
California	190	90	80
Total 15 states	118	92	76

*Not shown to avoid disclosing individual operation.

for
PREMIUM RESULTS
at the market place

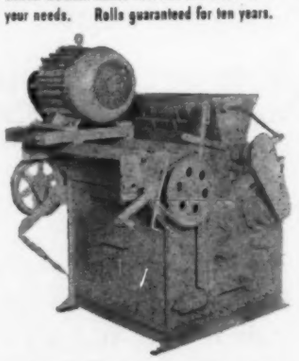
For best results on the farm or at the market, the choice is SPENCER KELLOGG'S OLD PROCESS *"expeller"* LINSEED OIL MEAL. This is the meal containing *natural, unsaturated fat* (left in... forming an integral part of the meal particle). It is the meal which provides healthier appearance, better bloom, premium conditioning and customer profits.

SPENCER KELLOGG'S OLD PROCESS *"expeller"* LINSEED OIL MEAL...
TODAY'S STANDARD OF COMPARISON!

SALES OFFICES
BUFFALO TL 2-5850 • MINNEAPOLIS FE 1-5971

SPENCER SK KELLOGG **SPENCER KELLOGG** BUFFALO 5, N. Y.
A Textron Company

GRAIN ROLLER MILLS in a size and model to fit your needs. Rolls guaranteed for ten years.



ROSKAMP HULLER MFG. CO.
CEDAR FALLS, IOWA

Read
CAPITAL COMMENT
in
FEEDSTUFFS

"We have found CocciVac® the only effective way to control cocci."
Monroe C. Babcock

Babcock Poultry Farm, Inc.

PHONE: 4-6384 • P.O. BOX 286 • ITHACA, NEW YORK • CABLE "BABCOCK"

February 1, 1961

Dorn and Mitchell Laboratories, Inc.
Opelika, Alabama

Dear Sirs:

During the last five years coccidiosis has become a serious problem. In many flocks an outbreak of cocci triggers off other diseases. We have found CocciVac the only effective way to control cocci.

Evidently cocci is "fast on its feet" and has become much stronger since the industry started using coccidiostats. Also, different farms have different strains and types of cocci.

We started using CocciVac in August 1959 and have now grown over 300,000 started pullets on it. We plan to grow 300,000 on it this year. We grow beautiful pullets on CocciVac. They live on the customer's farm. They don't die with cocci during the growing period. They don't die with it in the laying house. Production has been very good. Losses from all types of leucosis in the growing period and the laying house with our started Babcock Bessies and Bonnies have been very low.

Here's our program: CocciVac in the water at four days. Trithiadol in the starting mash. Gas brooders. Keep litter damp enough to allow cocci to sporulate. In real dry houses the floors should be wet down enough to allow coccidiosis to sporulate. Our experience shows that some chicks will show "cocci signs" at three or four weeks of age but do not die. At eight weeks they are beautiful and they stay beautiful.

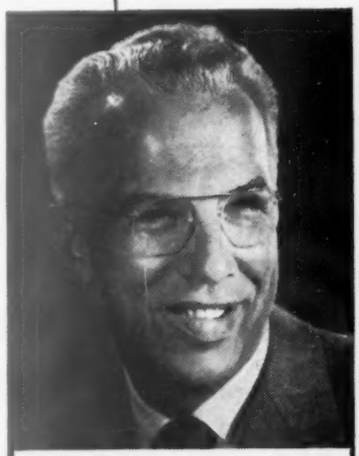
Sincerely yours,

MCBabcock

Monroe C. Babcock

MCB/b

Chicks Make Great Layers



Mr. Babcock is one of America's leading breeders. His Babcock Bessies and Bonnies have long been noted for their profit-making abilities.

CocciVac Type 4 is available for broilers. Types A and B for layers and roasters — and for broilers in heavy exposure areas.

Dorn and Mitchell
LABORATORIES, INC.
SUBSIDIARY OF STERLING DRUG INC.
Opelika, Alabama

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Animal Health Division
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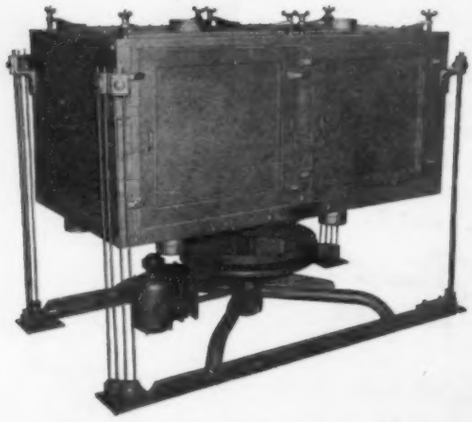
Prairie gold®
BRAND
60% CORN GLUTEN MEAL
ADDS THE GOLDEN TOUCH
TO BROILERS.

CORN PRODUCTS COMPANY
717 FIFTH AVENUE NEW YORK 22, N.Y.

HUSTLER

Compact
Floor-Mounted
TWO SECTION SIFTER



Now—a floor-mounted two section sifter that is sanitary—durable and economical. Has a steel box, unit type base with individual motor drive. All component parts are engineered for long, trouble-free service. Speed and throw are adjustable to meet the requirements of your stock.

Write for information, specifications and prices on all Nor-Vell products. We will custom build to suit your requirements.

NOR-VELL INC.
FORT SCOTT, KANSAS
The Name That Means Better Sifting

New Kentucky Feed Mill Finds Service to Agriculture Pays Off

By Special Correspondent

SERVICE TO AGRICULTURE is spelled with capital letters at Farm Services, Inc., Glasgow, Ky.

And . . . it should be, for service is the key that has unlocked the door to what promises to be a bright future for the feed dealership formed just two years ago.

Farm Services located in the Glasgow area because, as V. H. Buckingham, its secretary and operating head, puts it, "Here was a tremendous potential not only for dairy and beef, but for feeder pig operations. On the many small farms where it is difficult to succeed through general farming, a feeder pig operation offers a chance to specialize and earn a good living."

As a service to local agriculture, Farm Services has promoted the bringing into the area of meat type gilts . . . thereby helping to diversify farming operations.

Since the program began, many producers have upgraded their hog program in terms of numbers, facilities, feeding and management, Mr. Buckingham reports. To encourage the practice of good management, Farm Services will put a boar on loan with customers who follow approved management recommendations. Most farmers sell their feeder pigs at 40-50 lb. to northern feeders.

Balanced Feeding Plan

One of the men behind Farm Services is Dr. J. J. Crouch, a highly regarded local veterinarian, who, "thought it would contribute to agriculture locally to have a dealer who would offer a sound, nutritionally balanced feeding program with good management and service follow-through. I had been called on to treat too many cases which were just plain nutritional starvation," Dr. Crouch added.

Farm Services, a Master Mix dealership, now serves customers over a 20-mile radius and finds that business has increased over four times since the mill opened in August of 1959. Despite a particular interest in feeder pigs, present business is well diversified, being approximately one-third layers, one-third dairy and beef and one-third hog. Over half of the feed is delivered in bulk.

A grain bank program is one of the service features offered by the new dealership. Boasting 43,000 bu. storage, including a 40,000 bu. crib for ear corn, Farm Services finds the grain bank has a lot of appeal to dairy and beef customers.

"It saves the farmer's time in the busy season to be able to just telephone us and order his grain mixed with concentrates and delivered," Mr. Buckingham said. "Besides, our storage facility helps to provide some needed storage space, since a lot of farmers don't have enough space for all the corn they'd like to keep on hand."

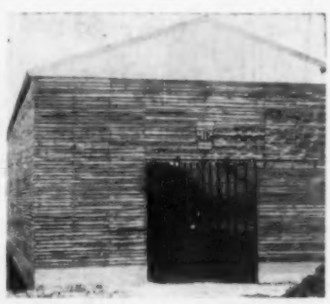
The small mountain of corn cobs generated by the ear corn shelling process presents another opportunity for Farm Services, which finds them in demand for chicken litter, gardens and bulking feeds.

The Right Facilities

A large part of service is having the right facilities, the firm's owners feel. The new mill and its equipment are the pride of Farm Services' owners, Mr. Buckingham; Dr. J. J. Crouch; Dr. Nelson Pott; Charles, Harry and William Johnson, and Kenneth Garmon.

The modern mill is of pole construction and aluminum siding. The roof is also of aluminum with panel lights in the ceiling.

At the heart of the mill operation are two 2-ton weigh mixers and one J. B. molasses blender. There is a 20 in. hammermill with a drag-type



GRAIN BANK—This new pole-type building has a capacity of 40,000 bu. of ear corn storage for Farm Services' grain bank program.

CONCENTRATES—This bag conveyor is used at Farm Services, Inc., in stacking concentrates on the mill warehouse floor for use in feed manufacturing and custom mixing operations.

MILL BUILDING — Shown here in front of the Farm Services, Inc., mill building are V. H. Buckingham, left, manager, and Kenneth Garmon, who is in charge of sales and service.

conveyor and truck hoist. In addition, a 16 in. J. B. hammermill is being added to help handle the growing business and further speed up service. With the firm's active grain bank program, the corn sheller is a busy piece of equipment.

Located at the mill is grain storage space for 3,000 bu. equipped with bucket elevators. In addition, there are holding bins for 24 tons of finished feed, with an auger system from mixers to bins.

Two truck dumps and a set of 40 ft. scales are in constant use by company and customer trucks.

A lot of progress in two years? "Yes, it is, and there's a lot of opportunity for future growth," comments Mr. Buckingham.

"We're counting on moving ahead with a sound, nutritionally balanced feeding program, fast service on custom grinding, lots of service to customers on better feeding, management and breeding . . . plus the word of mouth advertising that comes from doing a good job for the farmer."

Large Gains Foreseen In Southern California Poultry, Beef Fields

LOS ANGELES — Continued growth of agriculture in southern California, with large gains in production of milk, eggs, poultry and beef is predicted by the agricultural committee of the Los Angeles Chamber of Commerce. The committee surveyed the 12 counties of the southern part of the state in a study of existing and future farming conditions.

It reports that the poultry and egg industry is expected to experience a "real boom" during the next 20 years. Production of eggs is expected to increase by at least 40% by 1980 and a 50% increase in production of broilers and fryers is expected during the same period. Nearly two thirds of the fryers and broilers consumed in California come from these southern California counties now.

Cattle Feeding

Most of the expansion expected in the beef cattle industry will be in the fattening of cattle in feedlots, the report states. About 60% more cattle were marketed from area feedlots in 1960 than in 1950, it was pointed out.

The cattle feeding business is expected to continue its growth mainly in Kern, Tulare and Imperial counties. San Diego, Riverside and San Bernardino counties will see a surge of interest in feeding dairy beef, culled from the vastly expanded dairy herds expected in the area.

Two important factors may limit growth of the cattle feeding industry in Southern California, says the report. One is the rising cost of transportation. Cattle and feed must be shipped into the area, and any serious rise in transportation costs could force a cutback in the industry.

The other, that of restrictive zoning by the cities in the area, has already cropped up to trouble feedlot operators. This problem could become quite serious during the next few years through further encroachment of cities on the farming area, it was pointed out.

Dairying is one of Southern California,'s most important industries. Although Los Angeles County has been the top dairy county in the nation for many years, zoning is bound to force a reduction of dairying in the Los Angeles metropolitan area, and bring about a relocation of the industry to the outlying counties.

Production

Production per acre and production per animal unit will also undoubtedly increase during the next two decades —as California growers will be working at the task of supplying food and fibre for 7,430,000 additional Californians by 1980, almost double present population.

At the present time, agriculture in the 12 southeran California counties included in the survey, pumps approximately $1,747,800,000 into the economy of the state each year. This makes the projected increases even more impressive, particularly since yields and cash return should rise even more than the increased acreage expected, the report concludes.

The 12 counties considered in the forecast are: Los Angeles, Imperial, Kern, Kings, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tulare and Ventura. Los Angeles and Orange counties, where agricultural acreage has been cut in half by subdivisions and industrial demands for land, will see a further reduction in agricultural acreage—but acreage increases in other areas will more than make up for this drop.

Ad Agencies Merge

OMAHA — Buchanan-Thomas and the Dow Co., Inc., Omaha advertising agencies, have merged, effective Nov. 1.

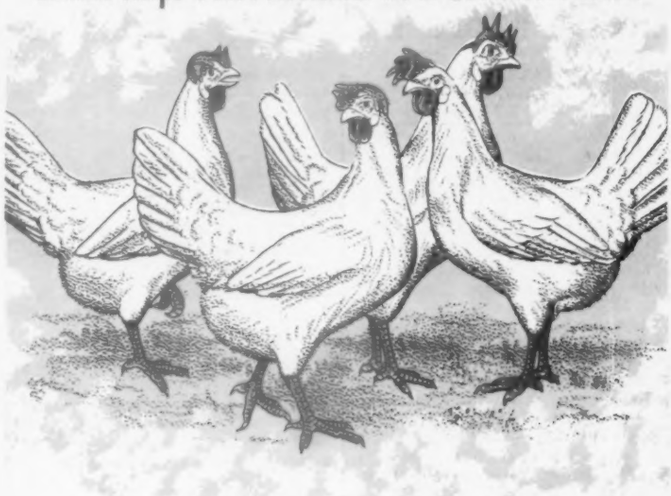
Robert E. Savage, president of Buchanan-Thomas, will be president of the new firm, to be known as Savage-Dow, Inc. John H. Dow, who heads the Dow Company, will be executive vice president.

Other officers are Jack Hultgren, vice president and account executive; John D. Andrews, vice president and art director, and Harvey E. Roffman, vice president and merchandising director.

PURCHASES MINNESOTA FIRM

OLIVIA, MINN. — Cyril Keltgen, Redwood Falls, Minn., has purchased the interest of his brother, Glenn, in the Keltgen Feed and Mill, Olivia. The business name of the firm will be Olivia (Minn.) Feed Service. Fred Evermann, employed by the firm since it was started five years ago, will be manager. The sale of Purina feeds and custom mixing and grinding will be continued.

Iomide Helps Other Medicines Work Better... Faster!



Iomide Is a New Concept in the Treatment of Respiratory Disease

IOMIDE TREATS THE BIRD, NOT THE DISEASE—Gland-O-Lac's IOMIDE hastens the liquefaction and elimination of pus, mucus and other exudates that result from respiratory disease. Used with antibiotics or other drugs, IOMIDE offers a complete treatment—antibiotics kill the disease organisms... IOMIDE'S systemic iodide therapy clears up after-effects of the disease. Danger of reinfection is reduced, high death and condemnation losses are avoided, birds regain health and normal rate of growth more quickly. Gland-O-Lac's IOMIDE is inexpensive, palatable, soluble in water and can be used in automatic watering systems. For full details on this new concept in treating respiratory diseases, write the Gland-O-Lac Company or see your Gland-O-Lac serviceman.

You can depend on

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for progress in medication!

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FEED DOESN'T BRIDGE

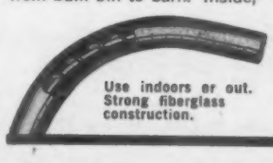
in the NEW Chore•Boy Bulk Feed Bin!

Bridging—a serious trouble with many bulk feed bins—is a thing of the past. Chore•Boy's **exclusive** steel-mesh belt delivery keeps feed moving steadily through the entire area of the bottom hopper opening . . . feed at sides of bin keeps moving down, eliminates places for bridges to form. Developed for use with world-famous Chore•Boy Herringbone milking-Feeding-Handling System, this new bulk feed bin and its revolutionary **flexible auger** has been proven in all kinds of farm operations all over North America . . . in poultry, hog and other feeding systems. IN ADDITION to the Bulk Feed Bin, Chore•Boy provides a complete line of feed system components. Write for **free** Feed Systems brochure.

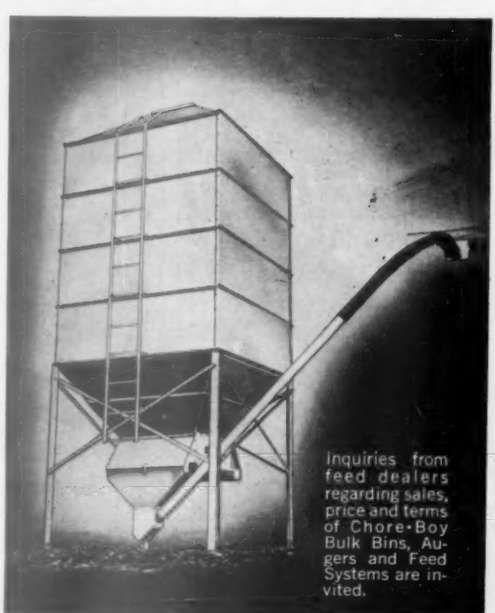
EXCLUSIVE! Flexible Auger goes around corners!

One source of power carries feed anywhere . . . up, down, around the corner! Chore•Boy Flexible Auger requires no extra power, no right-angle transfer equipment. Outside, Flexible Auger carries feed from bulk bin to barn. Inside, this revolutionary unit may be installed to carry feed to mangers, feed troughs, etc. Tested in use in many different applications, Chore•Boy Flexible Auger is simple, economical, **reliable**, requires very little power to operate.

BE SURE to get all the facts on Chore•Boy's new Bulk Feed Bin and Flexible Auger, along with Feed Systems Components . . . help build your profits!



Use indoors or out. Strong fiberglass construction.



inquiries from feed dealers regarding sales, price and terms of Chore•Boy Bulk Bins, Augers and Feed Systems are invited.

Chore•Boy Mfg. Co. • Cambridge City, Ind.

Division of Golay & Co., Inc.

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Largest Dealers in Southwest

MID-CONTINENT GRAIN CO.

Board of Trade Victor 2-4671

KANSAS CITY, MO.

Buy and Sell

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WANT ADS

—In—

FEEDSTUFFS

Conference Told Formulation To Be More Exacting, Efficient

By THOMAS E. LETCH
Feedstuffs Staff

FAYETTEVILLE, ARK.—In three to 10 years the term "protein" will be obsolete, and nutritionists will speak in terms of specific quantities of each amino acid much as the vitamin B complex has been broken down.

That was the prediction made by Dr. E. L. Stephenson, University of Arkansas, during the Arkansas Formula Feed Conference (Feedstuffs, Oct. 14, page 12).

Other topics included: Energy-amino acid relationships in formulas for breeding hens; CRD prevention in chickens and turkeys; high energy rations for ruminants; utilization of roughages in beef cattle; the vitamin A problem in ruminant rations; protein levels for swine, and the value of a laboratory to a feed manufacturer.

Reports on the various talks presented follow:

AMINO ACID BALANCE IN BROILER FORMULAS — Dr. E. L. Stephenson, professor of animal nutrition, University of Arkansas, told the group that in three to 10 years nutritionists will speak in terms of specific quantities of each amino acid rather than of protein level. He said that the protein moiety will be broken down much as the B-vitamin complex has been.

"There is no question but that formulation will be more exacting and more efficient. The bird will be able to use greater levels of energy with no increase in total dietary nitrogen. There will, however, be a much better balance in the components which supply the nitrogen in today's formulas."

Dr. Stephenson recalled the informal discussion at California in 1960 during which Dr. Laurent Michaud of Merck & Co. suggested the use of a line graph on which each amino acid was platted in relation to other amino acids as well as to the total energy of the ration. This graph he referred to as a "silhouette."

"This is by no means the only way through which these ingredients could be listed, but it is perhaps the simplest and clearest of the methods currently proposed. It was pointed out at this time that if the ideal silhouette could be obtained, the feed manufacturer would be able to supply poultry formulas containing any given magnitude of energy."

He continued: "During the last year research workers at the University of Arkansas have conducted several feeding trials in an attempt to obtain a more perfect silhouette. Various amino acid combinations and various energy levels have been studied.

"Diets have been formulated which would produce a 3-lb. bird (average both sexes) in six and one-half weeks with a feed conversion of 1.6 lb. of feed per pound of gain. These formulas contained appreciable supplementary amounts of methionine, lysine, arginine and glycine.

"As will be noted, some of these amino acids are not currently available in feed grade form; thus the price of adding them would be prohibitive. For this reason, if for no other, the rations which have produced more efficient results are not economically feasible to use in the field. There is, however, good likelihood that many of these amino acids will be much cheaper when feed grade materials are available."

Dr. Stephenson did say that it appears that lysine and arginine may be the keys.

ENERGY-AMINO ACID RELATIONSHIPS IN FORMULAS FOR BREEDING HENS—This topic was discussed by Darrell B. Bragg, University of Arkansas. Previous work at Arkansas has shown that the protein requirement was greater than 13% but not more than 19.5% of the breeder diet, he said. Other recent studies indicated that 5% fat added to the diet improved feed efficiency, with the required level ranging between 0.463 and 0.488% of the diet when hens were maintained on semi-purified diets.

"In order to fulfill the demands for broiler replacements, a breeder ration that will increase egg production and efficiency of feed utilization is becoming increasingly important," Mr. Bragg said. "Therefore a study was designed to test the effect of lysine, fat and protein on the reproductive performance of the breeder hen."

Twelve diets were formulated that included three levels of protein (13, 16.25 and 19.5%), two levels of fat (0 and 10%), and two supplemental levels of lysine (0 and 0.1%). These treatments were integrated in all possible combinations with practical-type diets. Each diet was fed during a five-month feeding trial to three pens of 25 White Rock pullets and two Vantress White Cornish males. The criteria for measurements were egg production (hen-day basis), feed efficiency (pounds feed/dozen eggs), percent mortality, percent fertility and percent hatchability of fertile eggs.

"The data from this trial indicates," Mr. Bragg said, "that optimum egg production and feed efficiency were maintained with 16.25% dietary protein. No improvement in egg production was noted with the feeding of high energy diets although feed efficiency was improved. The addition of 0.1% lysine to the diet im-

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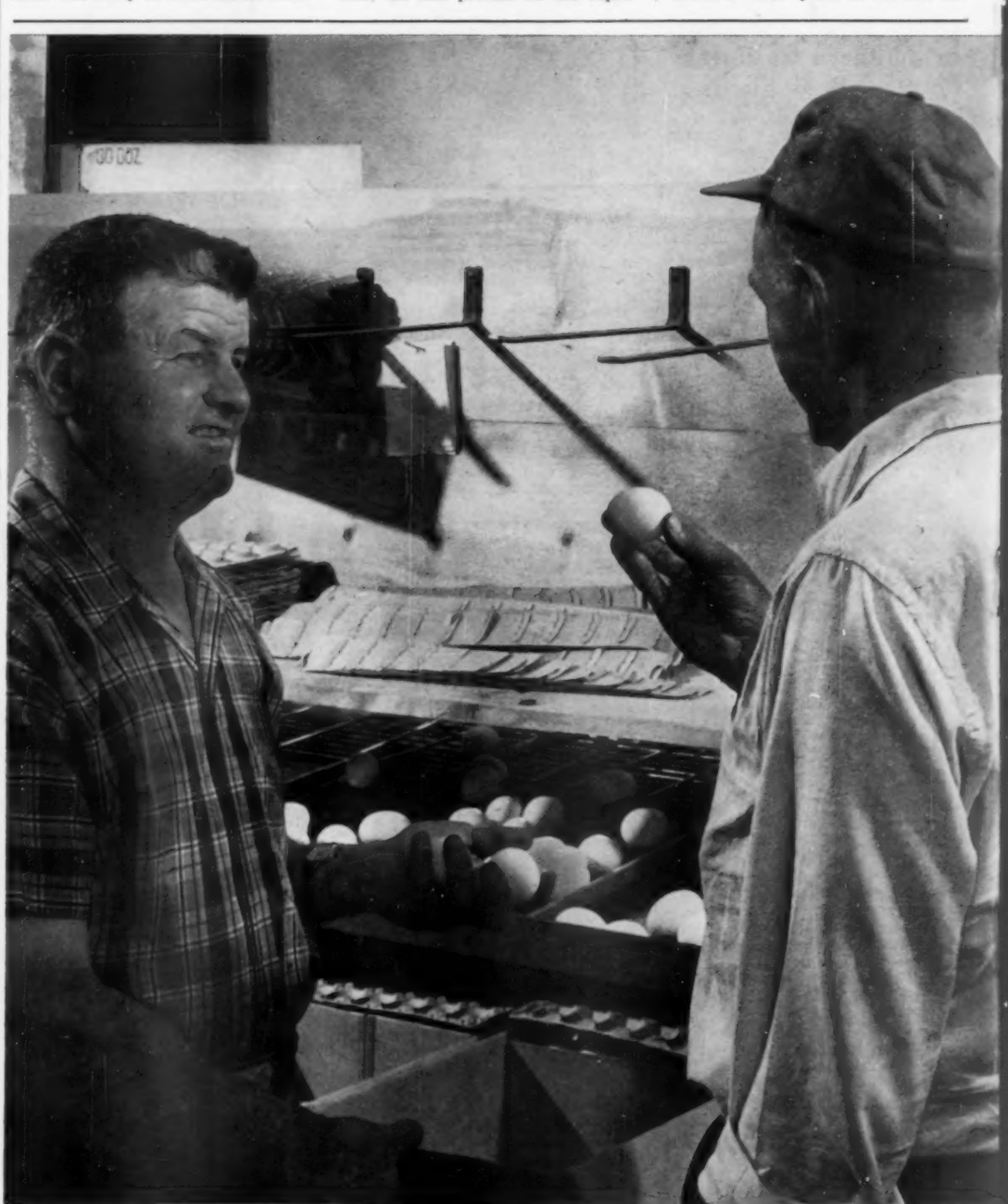

Hy-Line layers rank first in 3 of the first 6 official Random Sample Tests completed in 1961. (Of all tests announced prior to Sept. 1)

Hy-Line 934-H ranks first in income over feed and chick costs in the Arizona, North Carolina and Texas tests.

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proved both egg production and feed efficiency at all protein levels fed. The improvement in both production and feed efficiency appeared to be greater with hens fed 16.25 and 19.5% protein.

"Therefore, the assumption was that either the natural lysine level of the low protein basal was sufficient to balance the amino acids of that diet, or that 0.1% supplemental lysine was too low to produce a response.

"The response due to treatment on fertility and hatchability was inconsistent and presented no definite pattern. Livability was improved with hens fed 19.5% protein, whereas mortality was increased when hens were fed 10% fat.

"The conclusion, then, is that while no significant difference was detected for treatment, the above trends were observable; and thus the 'tools' for investigation of amino acid requirements in breeder hen diets are still in the formative stage—extremely interesting, but not as yet fully developed," Mr. Bragg concluded.

CRD PREVENTION IN CHICKENS AND TURKEYS—Dr. E. H. Peterson, University of Arkansas, was prevented by illness from presenting his talk on CRD prevention. In his talk printed in the transcript, he noted that with chickens, the best that can be done is to reduce losses as much as possible through attention to:

(1) Care of hatchery flocks' health including brooding and rearing care, effective vaccinations, nutrition and general management. Outbreaks of CRD should be treated promptly. Chicks hatched during CRD outbreaks will show poor livability and be of inferior quality.

(2) Effective vaccination programs in broilers with special reference to Newcastle disease.

(3) Good management practices with special attention to the brooding period.

(4) Proper use of antibiotics or other drugs for the treatment or prevention of CRD outbreaks.

Dr. Peterson discussed proposals for eradicating PPLO from chicken breeders. The blood test program has not been successful for CRD, he noted. It is useful, he said, only for locating non-infected flocks. Pre-incubation dipping of eggs in certain antibiotic solutions under specified conditions is said to destroy PPLO organisms within the egg. The procedure, however, is experimental at the present time, he said. No method has yet been devised for stopping the egg transmission of PPLO by the use of antibiotics. Work, however, continues, and there is considerable hope for eventual success. The vaccination of birds against CRD has been unsuccessful.

Turning to turkeys, Dr. Peterson said that "experience in several states has demonstrated that the establishment and maintenance of CRD or infectious-sinusitis-free turkey breeding stock is possible. Success, however, depends upon the willingness of the operator to follow through with every phase of a complete program including the depopulation of infected bird groups, disinfections and clean-up of premises, and maintenance of disease-free groups in rigid isolation from all other birds including the hatching, brooding, rearing and adult periods."

HIGH ENERGY RATIONS FOR RUMINANTS—Dr. R. B. Grainger of Monsanto reviewed much of the work that has been done with high energy rations for finishing slaughter cattle. He questioned what is meant by "high energy" rations for steers. "The terms all-concentrate, high-concentrate or low-roughage are not really high energy compared with an all concentrate plus added fat," he commented.

All barley or corn and cob meal rations have approximately 70 therms net energy per 100 lb., Dr. Grainger said. "In a recent study conducted by our research group, the energy level of the 70 therm rations was raised to 81 therms by the addition of acidulated soap stocks. In the study a 2 x 2 factorial of energy and protein indicated no differences in gain, but an improved feed efficiency on high energy, 11% protein ration."

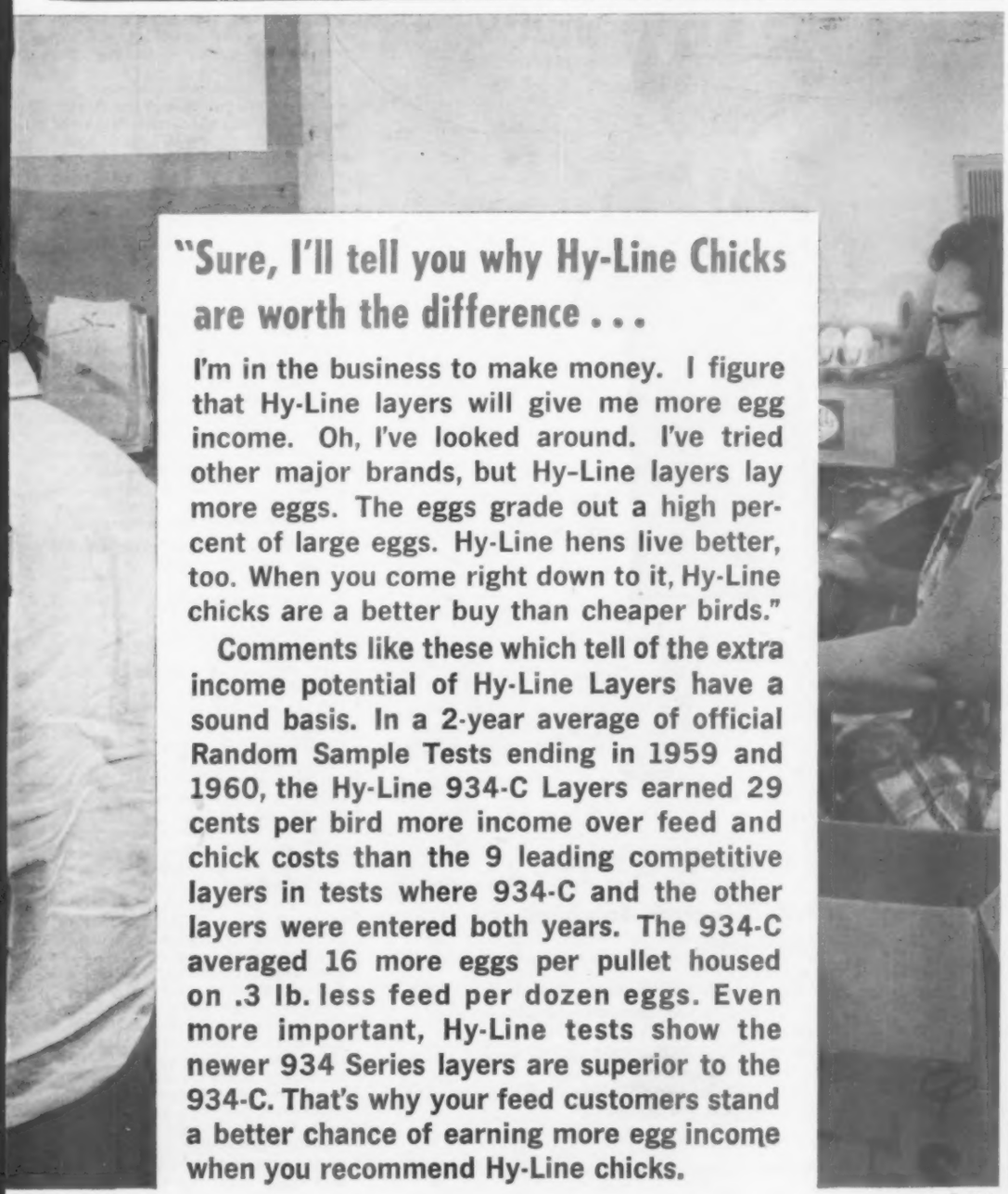
In another study done in 1959, a corn-soybean meal ration containing 25% protein was fed to steers, Dr. Grainger continued. The corn-soy ration and the corn-soy, tallow, alfalfa hay ration were isocaloric, about 75 therms per 100 lb. In all cases the addition of energy improved gain and improved feed efficiency and the addition of roughage decreased gains and decreased feed efficiency.

In conclusion, Dr. Grainger raised these questions: "What is the caloric limit for feeding steers? Is 11% protein limiting on truly high energy rations? Will other nutrients become limiting?"

"It remains that relative ingredient costs balanced against performance will determine how high the energy density of a particular ration for steers should be. The main value of the high energy system is the flexibility the feeder may have in feed formulation," he said.

UTILIZATION OF ROUGHAGES IN BEEF CATTLE RATIONS—Dr. M. L. Ray of Arkansas discussed the utilization of roughages in beef cattle rations.

"As the human population in America continues to grow, competition will undoubtedly become greater between man and the various farm species for certain of the feedstuffs, particularly the cereal grains. Thus, to capitalize on the ruminant digestive system, and to utilize satisfactorily vast acreages in our country suitable only for the production of pasture and forage crops, roughages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SCHOLARSHIP CHECK—Henry Niemeyer, outgoing president, Arkansas Feed Manufacturers Assn., presents a $1,000 scholarship check to the University of Arkansas Animal Industry Club on behalf of the association. Receiving the check for the club are: William Vangilder, club president, and Larry Smithson. The presentation was made at a chicken barbeque during the 11th annual Arkansas Formula Feed Conference held on the campus of the University of Arkansas Sept. 28 and 29.

should probably be the major constituents of beef cattle rations in this state and others."

Then Dr. Ray listed 10 different commercial production programs for Arkansas. "It is noticeable that roughages are indicated as the major feed constituents in all except the drylot finishing of beef steers and heifers. In this program, roughages may make up one-third of the ration or less depending upon the degree of mechanization that the feedlot has achieved."

The question may be asked, Dr. Ray continued, "Why do beef cattle producers continue to worry with problems of roughages in their rations when their handling often is so difficult due to their bulky nature, etc.?" The reason is that cost per pound of digestible nutrients is usually much less in roughages than in concentrates, he said.

Dr. Ray urged feed manufacturers to supply the supplements to roughages for the various cattle feeding programs.

THE VITAMIN A PROBLEM IN RUMINANT RATIONS—The vitamin A problem was discussed by Dr. O. T. Stallcup, University of Arkansas.

Recently as grain content of rations has increased, vitamin A problems have become more common, Dr. Stallcup said.

The adequacy of a carotene-containing ration to maintain cattle in good vitamin A status will depend on (1) previous vitamin A status of the animal, (2) the amount of carotene present in the diet, (3) the digestibility of the carotene-containing ingredients and (4) the efficiency of conversion of the carotene into vitamin A.

But, continued Dr. Stallcup, the exact measurement of the vitamin A status of cattle is not easy. Also, there is evidence that a number of factors are implicated in the vitamin A problem. Among them he mentioned the nitrate levels of ingested forage, phosphorus content of the ration, an interrelationship between vitamin E and vitamin A, and between thyroid status and vitamin A as well as the energy level of the ration.

"These facts bear out the following of which feed manufacturers and nutritionists must be aware," Dr. Stallcup said:

(1) The need for continued research on vitamin A and the factors influencing the vitamin A status of the animal. Research done many years ago under different conditions, with plant materials that are grown under conditions vastly different from those of today, does not suffice for the present.

(2) All animals on feed should be checked for evidence of vitamin A deficiency.

(3) The optimum level of supplementation for cattle on full feed from the standpoint of performance and economy of gain has not been well established. An interim recommendation that appears reasonable would be the supplementation of rations high in energy and low in high quality roughage with 10,000 to 30,000 I.U. of vitamin A daily or its equivalent in carotene. The level used depending on whether the ration contains minimal levels of carotene or if it is deficient or low in carotene.

PROTEIN LEVELS FOR SWINE—This was the subject of a paper presented by Dr. P. R. Noland, University of Arkansas. In it he reviewed much of the work that has been done by various researchers. He made these points:

(1) Some evidence exists which indicates that in certain situations N.R.C. recommended protein requirements for growing and finishing swine are higher than necessary.

(2) Seasonal differences exist in the protein requirements which in turn could be influenced by the overall gaining potential of pigs. The faster gaining pigs in a summer test at Arkansas responded to higher protein levels more than the slower gaining pigs fed in the winter test.

(3) Performance of pigs in an Arkansas test fed a 12% protein ration with a combination of bacitracin and neomycin was approximately the same as pigs fed a 15% protein ration without the antibiotics.

(4) In general, with good pasture, pigs can be furnished a ration containing about two units less protein than those fed in drylot. After 100 lb., thrifty pigs with a good management program will make satisfactory gains when fed grain, vitamins, minerals and good pasture.

(5) In general, it appears that it is not necessary to add supplementary lysine and/or methionine to a

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corn-soybean meal type ration if the N.R.C. requirements are used as a basis for formulating rations for growing-finishing pigs.

(6) Swine producers and feeders cannot make lean pigs if they do not have the necessary hereditary potential for leanness, regardless of the protein level fed.

(7) The protein need of 10 lb. pigs is at least as great as the N.R.C. recommendation of 24%. Amino acid balance of the proteins is of utmost importance with pigs of this size.

(8) The N.R.C. gestation-lactation recommendations for protein can be reduced by at least two units if the sows have access to good pasture.

WHAT LABORATORY ANALYSES THE FEED MANUFACTURER SHOULD MAKE ON HIS FEED— Dr. S. R. Johnson, MFA Milling Co., Springfield, Mo., in his talk pointed out the value of a laboratory to a feed manufacturer.

"The purpose of a feed manufacturer's control laboratory is (1) to know that the incoming ingredients are up to specifications and (2) to know that the formulas are being compounded and mixed properly in the mill," he said.

Ingredient specifications should be related to feeding value, the thing the ingredient is relied upon to supply in the feed formula, he said. All ingredients should be bought on specifications, with contract provisions for discounts below specifications.

He said, "On the final feeds a trained mill inspector, with authority to stop production, should examine all feed as produced. Laboratory microscopic inspection is helpful to determine approximate exactness of compounding, and to find contamination, and may be done on certain types of feed before being released for sale. It is too impractical and costly to await detailed chemical laboratory results before the feed is released. However, a frequent spot check, using a quick qualitative or semi-quantitative determination for presence of premix, can often be done before the feed is released, or on the day of release. This can be done by use of an easy-to-determine drug in the premix, the drug acting as a tracer."

"The tag guarantees, regardless of their importance, must be made and complied with. A feed manufacturer's own laboratory helps him comply, reduces extent of guarantee failure and citations from feed control officials, and increases their confidence in, and cooperation with, the feed manufacturer," Dr. Johnson continued.

"The smaller the feed manufacturer's volume, the greater the per-ton cost of laboratory operation. It may run from 20¢ to $1 per ton; 50¢ per ton is good for the average 20,000 ton annual volume feed mill. Initial cost varies widely, a reasonable equipment cost for a two-man laboratory for a 20,000 ton volume mill is $4,000-$5,000.

"Cash outlay costs don't tell the whole story, the final savings more than justify the cost for the average manufacturer."

Larry Alley, Pay Way Feed Mills, Inc., Kansas City, and president of the Midwest Feed Manufacturers Assn., and Lloyd S. Larson, executive vice president of the association, addressed the group briefly concerning the Centennial Nutrition Conference to be held in Kansas City Oct. 23-25. They also presented to the university a copy of the new Feed Production Handbook.

Dr. E. M. Cralley, director of the experiment station at Arkansas, outlined the philosophy of research that prevails at the university. Teamwork is vitally important, he said, but this teamwork must not stifle individual initiative.

More about the many research projects that are under way at Arkansas in the area of animal agriculture was presented by Dr. Warren Gifford, chairman, department of animal science and veterinary medicine. He sketched the purposes of some 40 individual projects.

Others who participated in the program were Henry H. Niemeyer, Niemeyer Grain Co., Inc., Little Rock, outgoing president of the Arkansas Feed Manufacturers Assn.; Pat Henry, Jeff D. Brown & Co., Inc., Springdale, and Dr. Clifford Treat, Arkansas Valley Industries, Inc., Dardanelle. Each acted as a chairman of one of the sessions.

The conference was sponsored by the university's department of animal industry and veterinary science, in cooperation with the Arkansas Feed Manufacturers Assn. and the Midwest Feed Manufacturers Assn. Dr. Stephenson was chairman.

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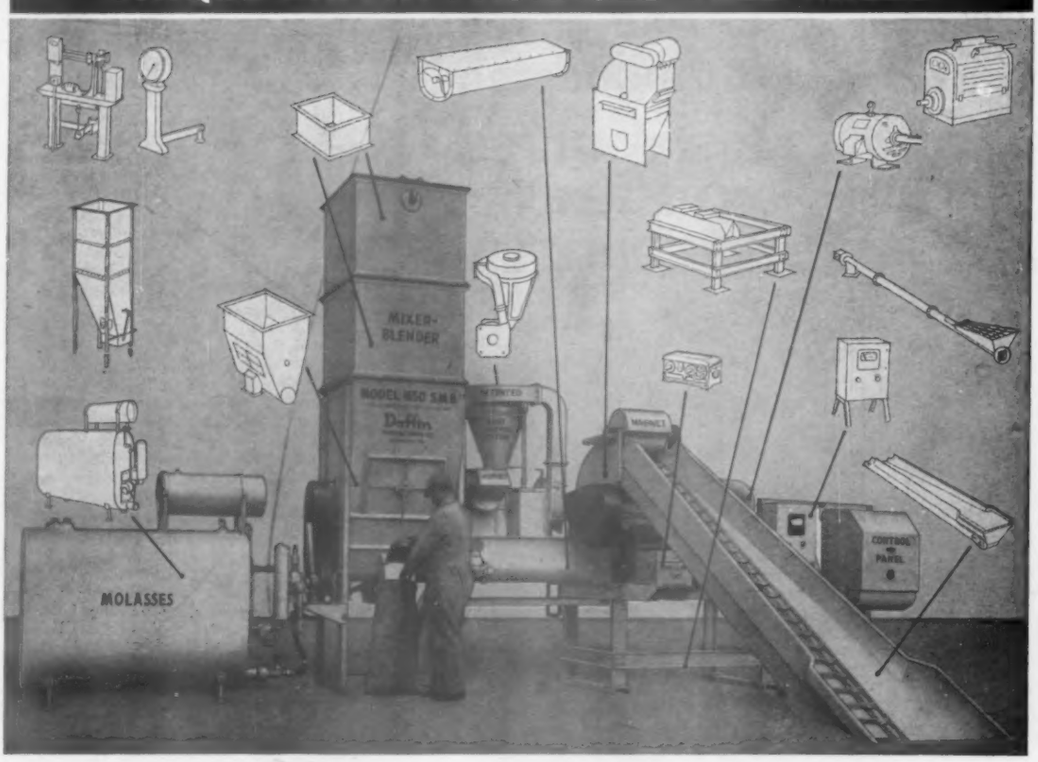

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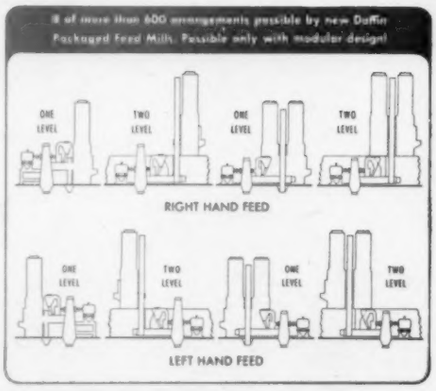

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Southeastern Production School Stresses Production Efficiency

By ROBERT H. BROWN
Special Correspondent

ATHENS, GA. — Getting the most for each production dollar in this era of increased volume of feed took the spotlight at this year's Southeastern Feed Production School.

Held in the Center for Continuing Education on the University of Georgia campus here, the school was sponsored by the Southeastern Poultry & Egg Assn. in cooperation with the Feed Production School, Inc., Kansas City, and the poultry department of the university.

Maintenance of mills in this day of automation is becoming a matter of prime importance and is worthy of more specific study in order to keep down operating costs, Bob Brunson, engineering department, Pillsbury Co., Minneapolis, emphasized. As automation grows so will the necessity of more expert maintenance service, and further, cost of maintenance is expected to go up as man hours per ton of production decrease.

Preventive Maintenance

Further, a good preventive maintenance program is essential today when continued operation is necessary to keep pace with competition, he pointed out.

Before World War II, there was a ratio of one maintenance man to 25 people. Today this ratio stands at one for each 8 to 10 employees, he said.

Mill executives might well look to the aircraft industries as an example of the benefits to be derived from good maintenance programs, it was pointed out. These industries have increased the frequencies of maintenance checks from every 100 hours to as low as every 30 hours, and it is paying them dividends, the speaker said.

"Basically good preventive maintenance consists of two things: (1) Major repairs to be anticipated and prevented and (2) minor discrepancies to be taken care of immediately," he said.

Also, basically, general cleanliness is essential in the encouragement of good preventive maintenance. This tends to make noticeable worn parts and mis-alignments and, thus, wear can be reduced. Operators should be carefully trained to watch for irregularities and malfunctions which should be promptly called to the attention of the maintenance supervisor.

"Most machine failures will give ample warning such as the odor of a burned out electrical insulation, the sound of loose buckets, the observation or feel of unnatural vibrations, etc. Response to such warnings will mean less down time and repair expense," Mr. Brunson said.

Lubricating Restraint

That the maintenance man is becoming a figure of increasing importance was stressed not only by Mr. Brunson, but also by Robert P. Olson, Jacobson Machine Works, Minneapolis, who conducted a workshop on hammermills. He stressed that one maintenance man should be made responsible for lubricating hammermills. No one else should attend to this task, he said, because the worst thing that can happen to a mill is a policy of being "grease happy" with a lubricating gun.

"Grease is the only thing in the world that will create heat in bearings," he said, in pointing out that nine out of ten mills are "overgreased." When grease is observed running out, it is a sure sign of "overgreasing," he said. If there is any doubt about how bearings and connections should be greased, the manufacturer should be contacted for a specification sheet for that particular model and bearing. One manufacturer, he said, recommended only a teaspoonful of grease a week. Some new motors having sealed bearings should be serviced on an annual basis. Generally, most boxes should be about one third full, he pointed out. Where it is necessary to flush out the lubricated points, it is advisable to use a good solvent recommended by the manufacturer. Gasoline should not be used because it has a tendency to dry out bearings, Mr. Olson said.

Mr. Brunson went into detail in his lectures on maintenance, covering the modern mill, including: V-belts, chain drives, gears, lubrication and the use of colloidal graphite.

Belt Alignment

One of the major causes of belt slippage, overheating, distortion and failure is out-of-alignment installations, he said.

"To get the most out of V-belts, they must be properly selected, correctly installed and well-protected in storage," he said.

Further, the maintenance men must seek to prevent belts being contaminated. Water and oil cause belts to shrink, thus putting excessive loads on both the belts and sheaves. Full protection can best be attained by applying protective guards on installations, Mr. Brunson commented.

Correction of slack is necessary where several belts are used in a multiple-belt drive. To maintain tension required originally, it often becomes necessary to take up this slack after a new belt has been in use a short time.

"It is very undesirable to have some of the belts longer than others in multiple-belt drives. In some plants a large amount of sagging is taken up by the skilful shifting of the motor on its base. A shift of as little as 1/16th of an inch, if done carefully, will equalize the tension and extend the life of the belts for several years," he pointed out.

However, if multiple belts in a unit vary too much, the longer belts pull away from the sheaves more than the shorter ones, and with the reduced arc on the longer ones, the shorter belts are overstressed. This can bring about damage to both the shorter and the longer ones.

"It frequently is wiser to use a new set of belts than to attempt correction by equalization in this case," he explained.

Precautions should be taken to prevent oil, grease, fumes, oil vapors, gases and other foreign matter penetrating surfaces of belts causing detrimental effects.

Overheated belts in temperatures exceeding 150° will cause slides affecting the desired speed ratio. Also, belts will deteriorate much sooner. Ventilated guards should possibly be used in high temperature areas.

One sure way to save some money is a policy of trying to spot toubles before they become so serious they make it necessary to replace equipment, said Mr. Brunson.

"Good maintenance consists of much more than just simple replacement of worn parts," he said.

Chain Drives

Turning to chain drives, Mr. Brunson said that slow running chain drives, while often operated with little or no lubrication, will fare better being lubricated periodically. This may be done by hand.

"It should be a definite rule in all

(Turn to SCHOOL, page 77)

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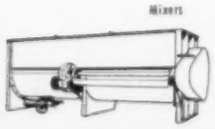

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People and Pigs—They're a Lot Alike

AUBURN, ALA.—Don't make fun of the pig. He's a lot like you.

Behavior studies of pigs show that some of their activities closely parallel those of people. G. B. Phillips, Auburn University extension pork production specialist, says that research in the corn belt region showed that pigs—like people—enjoy togetherness, have leaders and become irritable.

In one experiment, researchers discovered that pigs practiced togetherness by preferring to eat in groups rather than alone. "Are your meals not more enjoyable when you eat with someone rather than by yourself?" asks the specialist.

In another test, it was discovered that one pig in each pen emerged as a leader. And he wasn't necessarily the largest pig; in one pen he was the smallest. "Look back into history; one of the world's greatest leaders, Napoleon, was a little fellow," Mr. Phillips points out.

And then again, pigs—like people—get edgy and irritable. As soon as confinement feeding of hogs became popular, many farmers were faced with the problem of tail biting in the pig parlor. At first, states the specialist, deficient diets were blamed. But some farmers, not satisfied with this explanation, experimented on their own.

One farmer gave his hogs a toy—an old tire hung above the feeding floor. They played with the tire and forgot all about tail biting, the specialist said. "Pigs are like children in this respect," explains Mr. Phillips. "Put a bunch of them in a room, and after they've explored every nook and cranny, they become bored and start fighting.

"The truth is that nobody really knows what causes tail biting or how to prevent it," adds the specialist. "But a Houston County grower has a sure cure; he de-tails the pigs when they are only a few days old."

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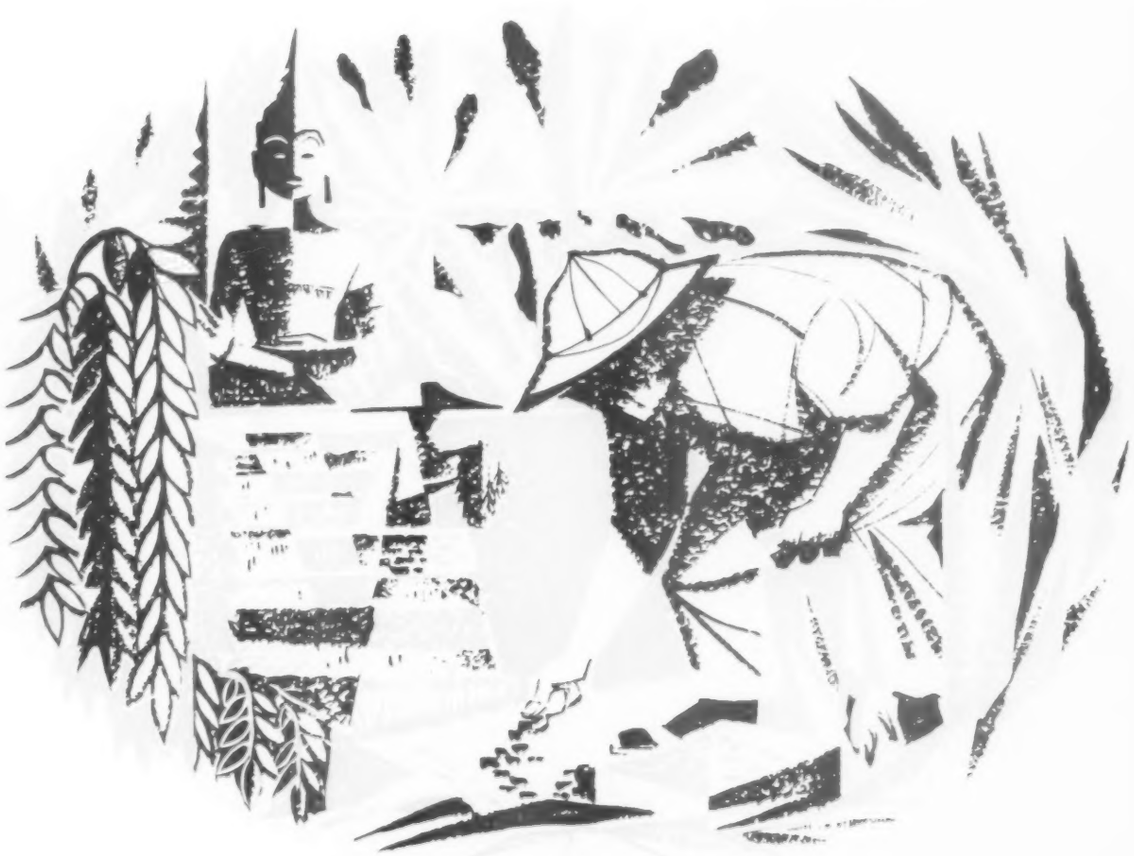


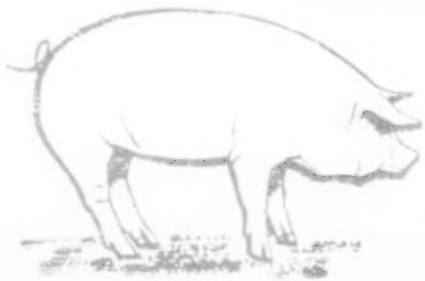
TYLAN™

A NEW AGRICULTURAL ANTIBIOTIC TO HELP INCREASE THE EFFECTIVENESS OF YOUR SWINE FEEDS

Now available as a growth stimulant for swine, Tylan has a fascinating history, and a promising future. Here's the story!

Among thousands of soil samples sent to the Lilly Research Laboratories from all over the world, one, collected by a medical missionary from a rice paddy in Thailand, contained a new antibiotic which immediately showed great promise for agricultural use. Following unsolved problems in agriculture, this antibiotic stood out as an exciting new weapon against several destructive disease organisms.

In the test tube, Tylan showed exceptional activity against several organisms that attack swine and poultry. Among them were a number of gram-positive bacteria, swine and poultry PPLO organisms, spirochetes, three species of Leptospira, erysipelas of turkeys, Hemophilus, one species of poultry coccidia, and several intestinal parasites. The test tube is one thing. Animals are another. Let's look at some results when Tylan was used in swine feeds.

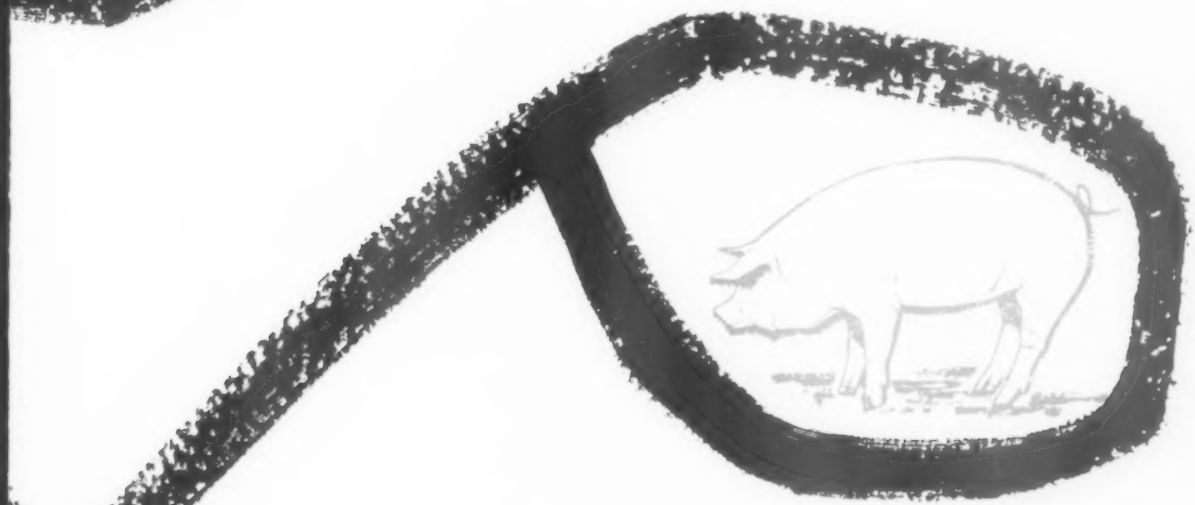


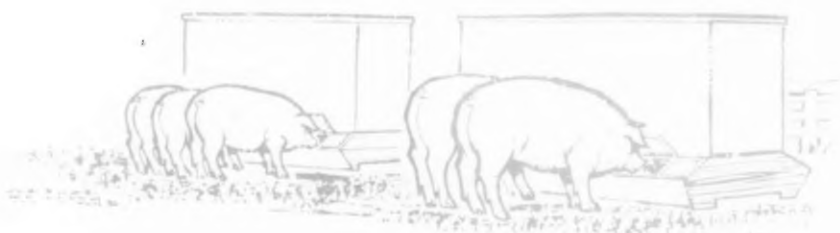
Lilly Research Center field trials proved Tylan to be very active and beneficial for swine. Over-all increase in efficiency averaged 8% for hogs fed a basal ration fortified with Tylan (entire feeding period up to 200 lbs.) over a comparable group fed the basal ration alone. Feed savings averaged 2.3%. For the period up to 40 lbs., pigs gained 22% faster on 4% less feed. Between 40 and 100 lbs., Tylan boosted gains 14%, without any change in feed consumption. The trials were encouraging. Now, what would happen under normal farm conditions?

The acid test . . . Tylan on the farm. Field trials in four cornbelt states were conducted on the farms of cooperating feeders. Tests in Iowa, Illinois, and Wisconsin were supervised by Swine Extension authorities. Those carried on in Indiana were under the supervision of Lilly research personnel from the Greenfield Research Laboratories. The trials involved approximately 1000 hogs.

The average increase in daily gain was 11% (to approx. 200 lbs.) by the hogs fed a basal ration plus Tylan, when compared with hogs fed only the basal ration. This was achieved with a 4% increase in feed efficiency. Average increase in daily gain up to 40 pounds was 17% with a 7% savings in feed.

Lower levels of Tylan give maximum results. In comparison trials, feeds with comparatively low levels of Tylan have performed consistently as well or better than higher and/or equal levels of the other antibiotics presently being used in swine feeds. This could provide a significant economic advantage to your feed formulation costs in addition to outstanding feed performance.





Recommended feeding levels:

Prestarter feeds—100 gm. of antibiotic activity per ton of feed.
Starter feeds—40 gm. of antibiotic activity per ton for pigs up to 40 pounds.
Grower feeds—20 gm. of antibiotic activity per ton for pigs from 40 to 100 pounds.
Finisher feeds—10 gm. of antibiotic activity per ton for hogs from 100 pounds to market weight.

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TYLAN™ ON-THE-FARM FEEDING TRIALS

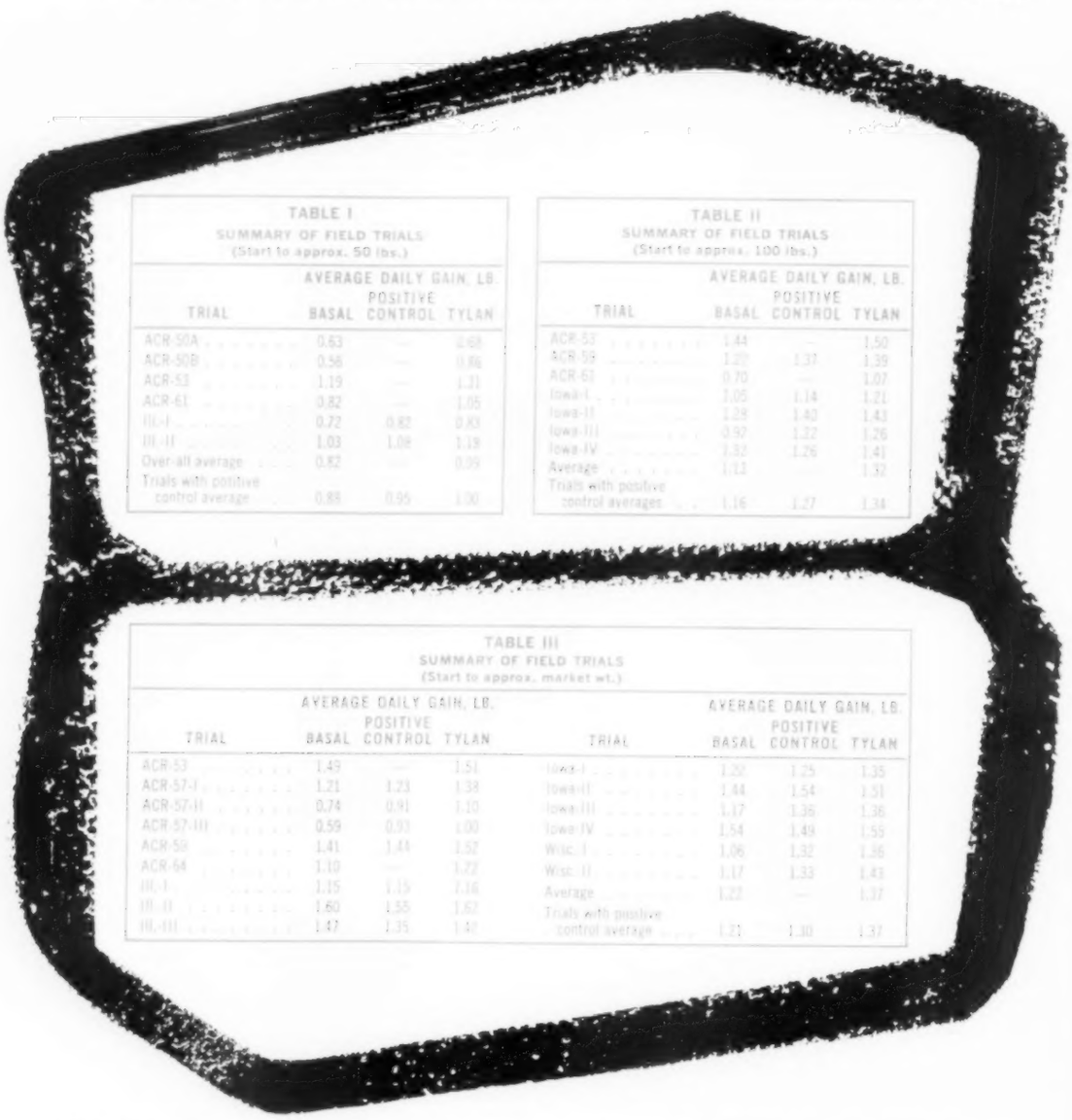

TABLE I
SUMMARY OF FIELD TRIALS
(Start to approx. 50 lbs.)

TRIAL	AVERAGE DAILY GAIN, LB. BASAL	POSITIVE CONTROL	TYLAN
ACR-50A	0.63	—	0.68
ACR-50B	0.56	—	0.86
ACR-53	1.19	—	1.31
ACR-61	0.82	—	1.05
III-I	0.72	0.82	0.83
III-II	1.03	1.08	1.19
Over-all average	0.82	—	0.99
Trials with positive control average	0.88	0.95	1.00

TABLE II
SUMMARY OF FIELD TRIALS
(Start to approx. 100 lbs.)

TRIAL	AVERAGE DAILY GAIN, LB. BASAL	POSITIVE CONTROL	TYLAN
ACR-53	1.44	—	1.50
ACR-59	1.20	1.37	1.39
ACR-61	0.70	—	1.07
Iowa-I	1.05	1.14	1.21
Iowa-II	1.29	1.40	1.43
Iowa-III	0.97	1.22	1.26
Iowa-IV	1.32	1.26	1.41
Average	1.13	—	1.32
Trials with positive control averages	1.16	1.27	1.34

TABLE III
SUMMARY OF FIELD TRIALS
(Start to approx. market wt.)

TRIAL	AVERAGE DAILY GAIN, LB. BASAL	POSITIVE CONTROL	TYLAN	TRIAL	AVERAGE DAILY GAIN, LB. BASAL	POSITIVE CONTROL	TYLAN
ACR-53	1.49	—	1.51	Iowa-I	1.20	1.25	1.35
ACR-57-I	1.21	1.23	1.38	Iowa-II	1.44	1.54	1.51
ACR-57-II	0.74	0.91	1.10	Iowa-III	1.17	1.36	1.36
ACR-57-III	0.59	0.93	1.00	Iowa-IV	1.54	1.49	1.55
ACR-59	1.41	1.44	1.52	Wisc.-I	1.06	1.32	1.36
ACR-64	1.10	—	1.22	Wisc.-II	1.17	1.33	1.43
III-I	1.15	1.15	1.16	Average	1.22	—	1.37
III-II	1.60	1.55	1.62	Trials with positive control average	1.21	1.30	1.37
III-III	1.47	1.35	1.47				

The basal ration used in these tests was the ration already being fed by the feeder to the swine on his farm. They varied between farmers exactly as rations vary normally, depending upon the manufacturer of the feed. Each basal ration was the normal one recommended by the manufacturer for the size pigs being fed, and contained those ingredients (including other antibiotics) which the manufacturer had worked into his program. In every feeding trial the normal feed used by the farmer became the basal ration, and Tylan was added to this ration for the comparative lots of swine.

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Virginia Researcher Says Protein Affects Gains

BLACKSBURG, VA.—Protein levels of cattle feeds influence the rate and efficiency of gain in steers, it is indicated by research results at Virginia Polytechnic Institute. Research on physical forms of feed also was reported.

Dr. J. P. Fontenot found, in preliminary studies with cattle fed a fattening ration for over 200 days, that maximum rate and efficiency of gain was obtained when the ration contained 14 to 15% protein on a dry matter basis.

The researcher reports indications that increasing the level above this depressed performance. When a low level of protein was fed, fat content of the meat was lowered. The effect of protein level in the ration on blood fat and blood protein is now under study.

A certain level of protein is needed in the ration to maintain normal health of the animal. An optimum level of protein is needed for the best rate and efficiency of gain.

This level may vary with the energy concentration of the feed. The optimum protein level needed for best performance in fattening beef cattle has not been definitely established at any energy level, says Dr. Fontenot.

In other research Dr. Fontenot noted a marked increase of interest in the effect of physical forms of feed for beef cattle.

Two feeding trials have been conducted at VPI, one using shelled corn and the second 90% shelled corn and 10% cottonseed meal. Beef heifers were individually fed fattening-type rations of long alfalfa hay and pelleted or ground concentrate.

Dr. Fontenot reports that in the first trial, pelleting the grain gave a marked increase in rate of gain and feed efficiency whether the cattle were individually full fed or fed equal amounts of feed.

Carcass grade tended to improve when the grain was fed in the pelleted form. Meat from the pellet-fed heifers tended to be higher in fat and lower in water than meat from heifers fed ground corn. Pelleting the corn did not markedly affect tenderness or juiciness of the meat.

In the second trial, says the researcher, there was at least a trend for an improvement in rate and efficiency of gain when pelleted concentrates were fed. However, the effects were not as marked as in the first trial.

Conference on Stored Grain Insects Planned

MANHATTAN, KANSAS—Kansas State University has announced plans for its second conference on "Stored Grain Insects and Their Control" to be held here Nov. 15-17.

According to Donald A. Wilbur, professor of entomology and a co-chairman of the conference, a major part of the program will be devoted to insecticidal and other control measures stressing the variable conditions that affect control procedures.

The rest of the program will consist of informal discussions on basic facts and principles related to the insects, Mr. Wilbur said.

Speakers and discussion leaders will include members of the entomology department staff of the university and stored grain insects laboratory of the Agricultural Marketing Service, U.S. Department of Agriculture.

Dr. John Shellenberger, head of the department of flour and feed milling industries, will speak on the effects of storage conditions on grain quality.

Mr. Wilbur commented that applications for the conference are to be made to Conference Coordinator, Department of Continuing Education, Umberger Hall, Kansas State University, Manhattan, Kansas, before Nov. 10. He pointed out that applications are to be accompanied by the fee of $15.

Cooperating with the university and USDA on the conference are the Kansas Grain & Feed Dealers Assn and the Kansas Wheat Improvement Assn.

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Hemoglobin Levels of Lambs from Birth to Eight Weeks of Age and the Effect of Iron-Dextran on Suckling Lambs

● R. C. Holz, T. W. Perry and W. M. Beeson, Purdue University; Journal of Animal Science, Vol. 20, No. 3, pp. 445-449, August, 1961.

ABSTRACT AND COMMENT

It is well accepted that iron-dextran compounds are of great value in the prevention of anemia both in humans and baby pigs. Less well understood are the need or possible effects of such compounds on young ruminants. A logical reason for this is that "normal" values for young ruminants have not been established with accuracy until only relatively recently. A good example of this is the fact that many apparently normal calves are actually deficient in iron and anemic at birth in the opinion of the Ohio research group (Hibbs et al., 1961). The anemia persists for several weeks or until after roughage intake has begun. In their trials, injections of iron-dextran resulted in increased hemoglobin (Hb) percent and serum Fe level, but did not enhance the growth rate of anemic calves. Furthermore, under the experimental conditions, no evidence was obtained that postnatal growth was limited by anemia at birth.

Blaxter et al. (1957) showed that a supplement of 20 mg. iron daily was not enough for a calf 1-4 months of age, which received milk only. The requirement was stated to be nearer 100 mg. daily, while the daily iron intake in the milk would usually average about 2-4 mg. In this experiment, iron deficiency anemia was produced in 4 calves in 2 months' time on a milk diet supplemented with copper and vitamin E. In field trials with suckling beef calves, these workers also demonstrated that 35 mg. of iron daily would increase the Hb content.

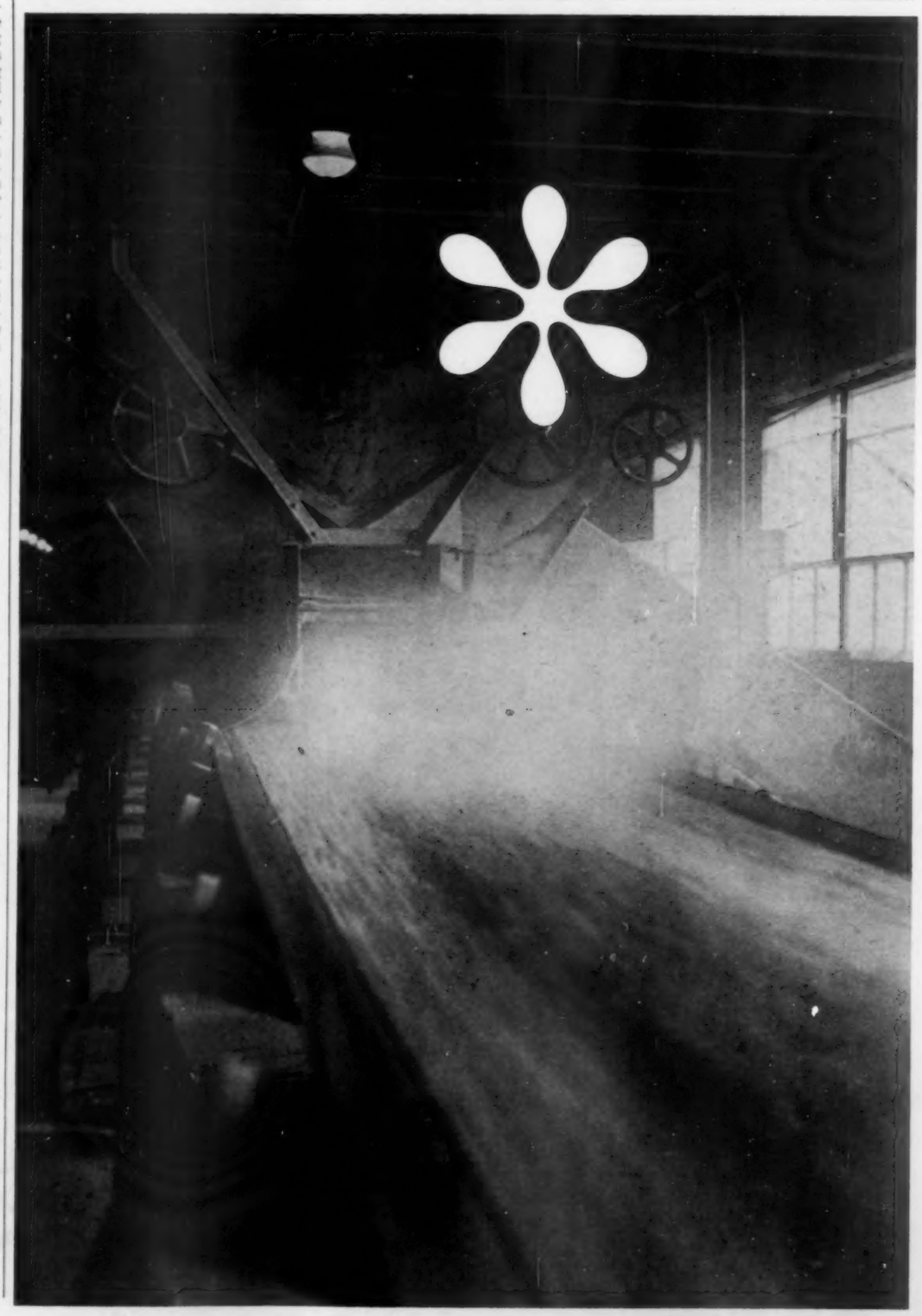
At about the same time, Matrone and associates (1957) indicated that the minimal nutritional Fe level for maintenance in young growing dairy calves of a normal Hb level was approximately 30 mg. per day. They used a basal diet consisting of whole milk, supplemented with vitamins A and D, and cobalt and magnesium.

The effect of copper and iron injections was investigated with range calves by researchers at the Squaw Butte Experiment Station at Burns, Ore. (1959, 1961) In one trial, it was shown that the Hb concentration of 4 control calves declined from 13.7 gm. percent at birth to a low value of 9.8 gm. percent at 3 weeks of age. A slight increase was apparent at 4 weeks of age. The normal decline was reduced significantly at 1 and 2 weeks of age by a 10 ml. injection of an iron-dextran preparation at birth. A later trial demonstrated essentially the same results and furthermore showed no differences in gains between untreated and treated calves over a 25 week period. In essence, these results are very similar to those previously referred to above secured by the Ohio group working with young dairy calves.

Several reports have recently appeared in the literature regarding the use of iron-dextrans in young lambs. The results are somewhat conflicting in nature and therefore deserve brief review. Hardman et al. (1959) injected one-half of the lambs born at the West Virginia Station flock with 4 cc. of Armidexan (Armour) within 24 hours after birth. The average Hb values over the 10 week observation period were 10.64 gm./100 ml. blood for treated lambs and 9.44 gm./100 ml. blood for controls. Difference in weight gain up to 70 days of age was not significant.

At the same time, the workers at West Central Station, at Morris, Minn., reported on the use of 2cc. Armidexan in the thigh of young lambs. Iron injections of young lambs resulted in no increase in growth rate; in fact, during the 45-day test, treated lambs averaged 1.2 lb. less total gain (16.3 vs. 17.5 lb.).

On the other hand, Swenson (1960) indicated a significant response in both Hb levels and weight gains when lambs were injected with iron-dextran. Even more dramatic results were shown by Carlson et al. (1961). When 3cc. of Armidexan was injected intramuscularly into newborn lambs, significant increases in the packed cell volume and Hb levels were produced within 1 week, with the effect lasting for 4 weeks. Furthermore, the treated lambs were significantly larger (3.5 lb.) when 8



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weeks old than untreated controls. When 12 weeks old, the treated lambs were 10.8% larger; the difference of 5.1 lb. was significant at the 1% level of probability. These same workers also demonstrated similar responses when newborn calves were given 24cc. of Armidexan per 100 lb. of body weight by injection. A suggested dose for newborn calves and lambs was given as 12 mg. of elemental iron per pound of body weight. A second injection of iron-dextran may be indicated in their opinion when animals are 4-6 weeks old, provided other adequate sources of the element are not available. Armidexan contains 50 mg. of elemental iron per cc.

In 1960 Purdue reported briefly at the annual ASAP meetings on the work to be reviewed following. Two experiments were conducted. The first trial was a pilot one, and lambs received either 2cc. of Armidexan or no iron injection at an average of 1 week. Average daily gain over 11 weeks for the control lambs was 0.46 lb. per day compared to 0.55 lb. per day for the group receiving 100 mg. of injectable iron. This 15% difference was not statistically significant. Also, Hb levels were not significantly different during any one sampling period.

The second experiment was conducted in the spring of 1960 using only female lambs from 160 ewes of western origin. The ewes had previously been on several gestation experimental rations and within each gestation lot the lambs were allotted to one of three treatments as follows: (1) no iron injection; (2) 3cc. of Armidexan within 24 hours after birth; and (3) 3cc. of Armidexan within 24 hours after birth, and an equal dose at 10 days of age, for a total of 300 mg. of iron. Within treatments lambs were divided on the basis of: (1) single or twin birth; (2) sex of twin partner if lamb were a twin, and (3) age of dam.

Gains for the 0, 150 and 300 mg. of iron groups were 0.54, 0.56, and 0.58 lb. per day, respectively. Analyses of variance of averages showed that these small differences were significant at the 5% level. Regardless of treatment, Hb levels of all lambs dropped an average of 1.4 gm. percent during the first 3 days of life. The control group, reached its lowest level, 8.37 gm. percent, at 3 weeks of age and increased gradually to 10.73 gm. percent at 8 weeks of age. The group receiving the 150 mg. of iron maintained almost a constant 11 gm. percent level from 2 until 8 weeks of age. The second injection at 10 days of age for the group receiving 300 mg. of total iron retarded the Hb decline between 7 and 14 days of age and was followed by an increase to 21 days of age. This was followed by a decline to a level near 11 gm. percent at 8 weeks of age. Interestingly, the mortality for the 0, 150 and 300 mg. of iron injection treatments was 30.5%, 38.6% and 13.5%, respectively.

It should be pointed out that when the rates of gain in the second experiment were evaluated by averages of averages, non-significant increases in rates of gain of 4.2% and 7.6% over the control group for the 150 and 300 mg. injections were shown, respectively. It is my opinion, that in general though the gain responses produced by iron-dextran injections are very small and usually non-significant, the consistency of the trend of results certainly indicates a small improvement of gains will be produced. Also, in view of less mortality in many experiments, iron-dextran injections would be of value in many instances. The final decision of whether to use them will have to rest entirely upon rations previously fed to ewes, availability of creep-feeding, season, and general health and vigor of lambs as well as the actual cost of administering iron-dextran compounds.

Columbus Feed Club To Elect Officers

COLUMBUS, OHIO—Members of the Columbus Feed Club will combine a program honoring past presidents of the club and annual election of officers at a meeting slated for Nov. 6 in the Terrace Room of the Southern Hotel.

Fourteen past presidents are expected for the annual program in their honor, according to Roland Scheiderer, Ohio Grain Co., Milford Center, Ohio, program chairman.

Speaker will be Robert H. Terhune, director of the Ohio Department of Agriculture. His topic will be "Ohio Agriculture and Our Opportunity."

The club's nominating committee has presented the following slate for officers for the coming year: President, W. S. Thompson; vice president, Ralph Matlock; secretary-treasurer, C. C. Welch, and directors (two to be elected), W. R. Hadgers, Noel Miller, Ted Jones and Lloyd Nicol.

A "Friendly Hour" will open the evening's activities at 6:30 p.m., according to Ralph Kagay, president. Reservations for the event may be made with Cleon C. Welch, 435 Brevoort Road, Columbus 14, Ohio.

Support Fight for Lower Grain Rates

MONTGOMERY, ALA.—The Alabama Feed Assn. and the Alabama Poultry Industry Assn. boards of directors have voted in favor of supporting the Southern Railway System's fight for lower grain rates into the Southeast. H. J. Harrell, Enterprise, said the feed dealers voted 45-9 in favor of the lower grain freight rates.

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Grinding for Efficiency in Production, Feeding and Sales

Suggestions on Better Hammermill Operation

By Robert F. Hessell
Tarkio (Mo.) Pelleting Corp.

Without a doubt the hammermill is currently the most commonly used piece of equipment for grinding of grain and forages. Since the hammermill has such an important role in the feed industry, we should use it to its maximum capacity for efficiency in production.

CHECK LIST—To obtain maximum efficiency from the hammermill, there are many things on which you must keep a constant check:

1. Make sure you have **proper alignment on the mill and motor.** Improper alignment will cause bearing trouble to both motor and mill.

2. Keep the mill and motor properly **lubricated.** Pillar blocks or bearing housings should have enough grease to fill them about ⅓ full. Over-greasing will cause excess friction and heating, thereby causing damage to bearings.

3. Have proper **magnets** on the feed table or feeder inlet to the mill. In my opinion you can not have too good a magnet to keep the tramp metal, etc., from entering the mill. Once the metal is in the mill, it is too late. Chances are, you will lose a screen, break some hammers or start a fire.

4. Keep **hammers** in good shape and in proper balance. When they become rounded, turn them or replace with new ones. Usually the thinner gauge of hammer will out-perform the heavier type hammer. This gives more uniform grind, lessens load on rotor of mill, uses less power, and gives less wear on hammers per ton of grinding.

5. The mill **discs** should be lined straight with the mill. Never have more than 3/32 in. gap where hammermill rods enter the mill discs. The hammermill rods should fit the discs snugly. The hammer should be free to turn on the rods—but not too much play.

6. Use a good **screen** that has staggered center of heavy gauge high carbon manganese with clear punched holes and not any misses.

7. Inspect the **fan** regularly. This is often overlooked because it is enclosed and takes a few minutes to inspect.

8. Have only **one long sweeping elbow in the discharge pipe** from the hammermill to the dust collector. Keep this tight, because a lot of feed can be lost through a small hole in a short time. Make sure the dust collector's cap is properly set.

METHOD AND MATERIAL—Next let us consider the material to be ground and the method of feeding the hammermill to keep a constant load on the mill. If you are going to grind only grains and soft feeds in the mill, it is best to equip it with a crusher feeder. If at some time you may be grinding hay or other roughage, use a wide feeder throat fed by a variable speed drag or auger. In either case have the feeder equipped with an automatic trip relay to stop the feeders if the hammermill motor becomes over-loaded. It is best to have at least two bins to draw from to feed the hammermill, so that change-over time from one ingredient to the next is held to a minimum.

The moisture of the grain or hay is important to the capacity to be expected per hour of production. If you hold moisture content on corn to 15% or below, oats and milo to 12-13%, and hay below 16%, you will have good production in your mills. When processing higher moisture material, production will go down accordingly. There is also the problem of spoilage in the finished product.

GRINDING OF FEEDS ON INCREASE—Livestock feeding is becoming more specialized every year and feeders are becoming more aware of feed efficiency and cost of gain. There is more demand for grinding of grains and hay to be mixed with concentrates to make complete feeds to be fed in pellet or meal form. I definitely feel that the small mill has a great future in serving its local area.

MAKE A SALESMAN OUT OF

(Turn to **GRINDING**, page 73)

***EDITOR'S NOTE:** A hammermill is a basic part of the custom feed plant, and in this presentation feed mill operators are given suggestions on hammermill operation and on the role of the hammermill in a feed plant set-up which brings more profit to both feeder and feed company. The article is from a talk by Robert F. Hessell, Tarkio (Mo.) Pelleting Corp., at the Small Mill Workshop sponsored by Feed Production School, Inc., in Kansas City. The paper on grinding was just one of several talks on basic mill operation.*

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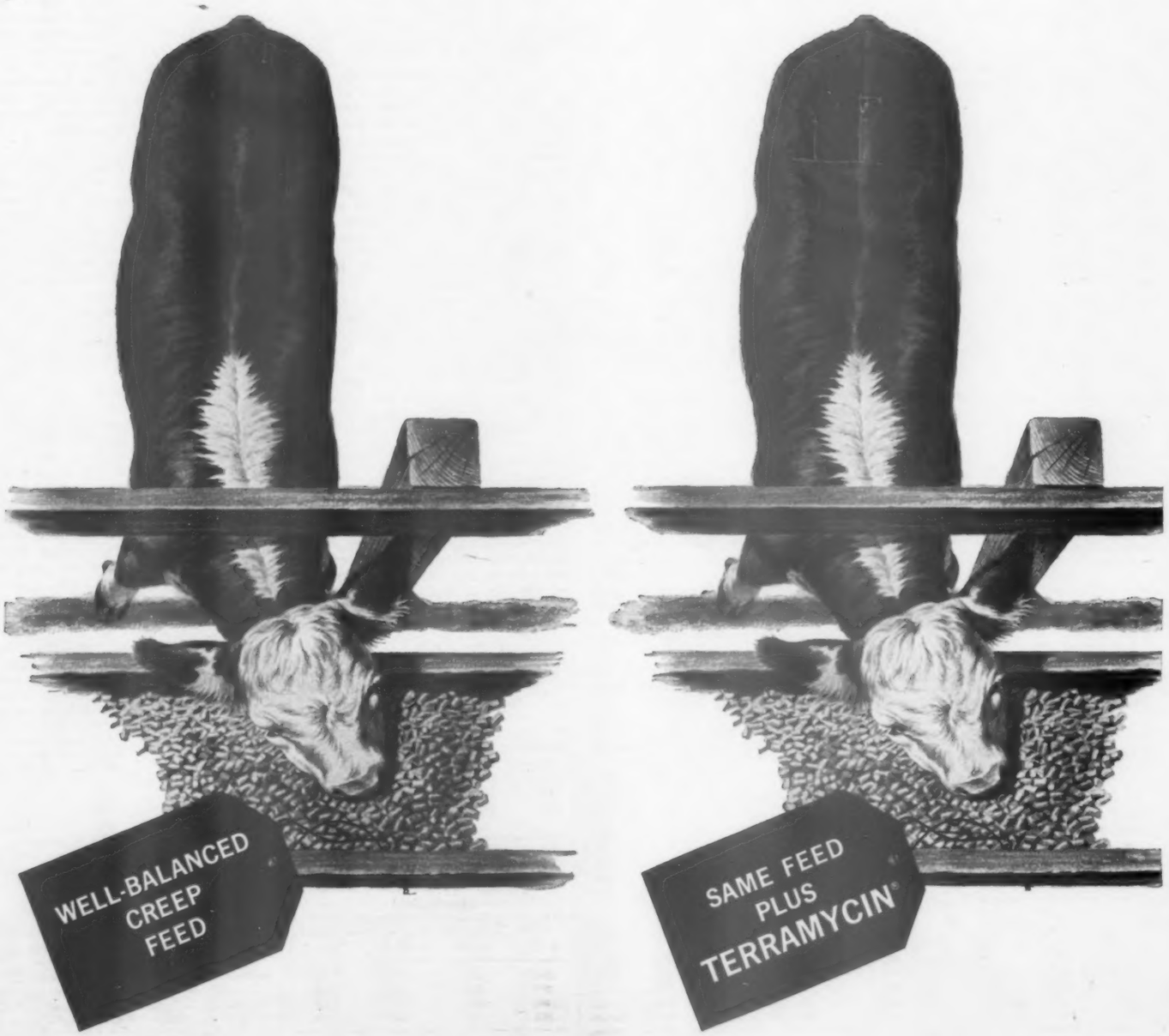

What Can You Do About Egg Shell Quality?

By Dr. Robert H. Harms
University of Florida

It is generally agreed that egg shells produced by egg production type hens are not sufficiently strong to withstand the handling procedures which they must undergo. This is particularly true during the warmer summer months and with older hens. There is considerable disagreement as to factors which attribute to this lack of strength, and methods by which egg shell strength may be improved.

There have been several theories advanced as to the reason for this decline or lack of shell strength. The reasons most often suggested may be classified into the five following categories: (1) disease; (2) genetics; (3) environmental; (4) physiological, and (5) nutritional.

I am sure that we all are aware that certain diseases will interfere with the birds' ability to form shells on the egg. The most classical example of disease interfering with egg shell formation is that of Newcastle disease. Not only does this disease cause a decrease in thickness of egg shells, but also results in abnormally shaped eggs.

Genetic variation is another factor which plays an important role in egg shell formation. Reports have appeared in literature which indicate different breeds of hens vary in their ability to produce strong egg shells, although fed the same diets. Unfortunately, many of these comparisons were made between egg type birds and meat type birds. Such comparisons are not valid since the feed intake varies greatly between these strains of birds, and rate of production is considerably different. Certainly there are differences between commercial egg production strains of hens in their ability to form egg shells, however, it is felt that these differences are quite small.

Physiological effects include factors such as handling or others that tend to increase the body temperature of the bird. These factors will cause egg shells to become rough, porous, brittle and thin. Much thought has been given to the problem of stress, and certain drugs such as tranquilizers have been used in an effort to reduce this problem.

Environmental conditions, especially high temperature, have effects. Since high temperatures have been shown to cause decreased egg shell thickness, this is of utmost concern to the poultryman in Florida.

The last, but certainly not of least importance, is the effect of nutrition on egg shell quality. No further comment on the effect of nutrition will be made at this time, since the major portion of this presentation will be concerned with the effect of nutrition upon egg shell quality.

Methods of Measurement

One of the greatest difficulties in studying factors affecting shell strength is that we have not perfected a satisfactory method of measurement. Several measurements have been used; among these are specific gravity of eggs, thickness of egg shells, percent of egg that is shell, and, in some instances, measuring breaking strength by dropping objects of different weight upon the eggs, and, in other cases, measuring the breaking strength of eggs by increasing the pressure exerted on the egg. Each of these measurements may have a close correlation to the strength of the egg shell, and if two or more of these measurements are obtained from the same egg, we will find that they are closely associated. Therefore, for research purposes, a measurement taken by any one of these five methods is a reliable estimate of the strength of the egg shell. In the research work conducted at the University of Florida we have used both specific gravity and thickness of egg shells.

We feel that egg shell quality is one of the greater problems facing the poultryman in Florida; therefore, during the past four years we have conducted considerable research in an attempt to find ways to increase shell strength. At this time I would like to briefly review some of the results from these experiments.

It has been known for a long time that an interrelationship exists between calcium and phosphorus utilization, therefore, we suspected that the level of phosphorus in the hen's diet might affect the thickness of the egg shell. Our first experiments were conducted to study this possibility. Composition of the diets used in these experiments is shown in Table 1.

These are simplified diets using primarily corn and soybean meal with 2.3% calcium, and fortified with adequate amounts of vitamins. In the first experiment, we were studying the effects of different sources of phosphorus. In the second year, the phosphorus supplement was eliminated from the basal diet, since we were feeding different sources as well as different levels of phosphorus.

Effects of Phosphorus

Table 2 shows the effects of feeding different levels and sources of phosphorus on the specific gravity of eggs in the first experiment. Egg shell quality was measured as specific gravity. The higher the specific gravity, the thicker the egg shells. No differences were detected in specific gravity of eggs in this experiment.

Specific gravity of eggs from hens used in the second experiment is shown in Table 3. Specific gravity was also measured in June with the trend being essentially the same. It may be noted that high levels of soft phosphate gave a lower specific gravity of eggs. However, it is felt this was not due to the unavailability of the phosphorus in the soft phosphate but due to the lowered calcium availability in the soft phosphate which we had not taken into consideration. This will be discussed later in the presentation. In general, we would conclude from these two tests that the level of phosphorus did not affect egg shell thickness.

Two years ago at the poultry science meeting Prof. Petersen of the Idaho experiment station reported that increasing the calcium content of the laying hen feed considerably in excess of the 2.25%, as suggested by the National Research Council, improved egg shell strength. This report attracted much attention, and several research workers have substantiated his findings. Two experiments have been completed at the University of Florida checking the effect of feeding high levels of calcium on the performance of laying hens. Composition of the diets used in these tests is shown in Table 4.

Diet 1 was the pre-experimental diet which the egg production type pullets received for a period of 11 months. It contained 2.3% calcium. At 11 months of age the birds were randomized into two groups and placed on the experimental diets. The low calcium diet contained 2.5% calcium and the high calcium diet contained 4.6% calcium. All feeds contained some added fat.

Results from feeding these diets are shown in Table 5. You may notice that production certainly was not hurt by increasing the calcium level of the diet. In fact, we got slightly better production with the higher level of calcium, although it is felt

Robert H. Harms

AUTHOR—Dr. Harms, whose talk on timely research pertaining to egg quality maintenance at the recent annual Florida Poultry Institute was adapted for this Feedstuffs article, is a poultry scientist at the University of Florida, Gainesville.

His studies have dealt primarily with the fields of protein, energy and mineral requirements of both broilers and layers. He also has conducted research on vitamin A and unidentified factors.

Dr. Harms received a B.S. degree in agriculture and a M.S. degree in poultry nutrition from the University of Arkansas. His Ph.D. in animal nutrition (poultry) was granted by Texas A&M College. He was in the poultry department of the University of Tennessee from 1955 to 1957, and has been in the University of Florida poultry department since 1957.

TABLE 1. Composition of Basal Diets for Phosphorus Studies

Ingredients	1st year	2nd year
	——(lb./cwt.)——	
Yellow corn	67.54	68.0
Animal fat	....	1.0
Soybean meal	18.35 (44%)	19.5 (50%)
Alfalfa meal (17% protein)	5.00	5.0
Fish meal (menhaden, 60%)	2.50	...
Ground limestone	3.24	5.60
Iodized salt	0.40	0.40
Defluorinated phosphate (17% P + 34% Ca)	2.47	...
Vitamin mix*	0.50	0.50

*Supplies per pound of feed: 1,996 I.U. vitamin A, 646 I.C.U. vitamin D_3, 6 mcg. vitamin B_{12}, 2 mg. riboflavin, 4 mg. calcium pantothenate, 9 mg. niacin, 200 mg. choline chloride, 2.5 I.U. vitamin E, 0.5 mg. menadione sodium bisulfite complex and 0.08 gm. $MnSO_4$.

TABLE 2. Specific Gravity of Eggs from Hens Fed Various Sources of Phosphorus (1st year)

Source of supplemental phosphorus*	Specific gravity of eggs
Defluorinated phosphate	1.080
Dicalcium phosphate	1.079
Soft phosphate	1.079
⅓ Soft phosphate + ⅔ Defluorinated phosphate	1.079
⅔ Soft phosphate + ⅓ Defluorinated phosphate	1.080

*Added to supply 0.45% phosphorus.

TABLE 3. Specific Gravity of Eggs from Hens Fed Various Levels and Sources of Phosphorus (2nd Year)

—Supplemental phosphorus— Source	Level, %	—Specific gravity of eggs— Dec.	Feb.
None	0	1.081	1.080
S	.03	1.083	1.079
DF	.03	1.080	1.078
DC	.03	1.085	1.079
S	.09	1.082	1.079
DF	.09	1.084	1.081
DC	.09	1.082	1.080
S	.35	1.075	1.075
DF	.35	1.083	1.081

S—Soft phosphate.
DF—Defluorinated phosphate.
DC—Dicalcium phosphate.

TABLE 4. Composition of Diets Used in Calcium Studies

Ingredient	Pre-Exp.	Low Ca	Hi Ca
	——(lb./cwt.)——		
Yellow corn	70.0	65.0	54.1
Animal fat	0.4	2.8	6.5
Soybean meal (50%)	15.5	17.6	19.5
Alfalfa meal (17% protein)	5.0	5.0	5.0
Fish meal (menhaden, 60%)	3.0	2.5	2.5
Ground limestone	3.8	4.3	9.8
Defluorinated phosphate (34% Ca + 17% P)	1.4	1.7	1.7
Iodized salt	0.4	0.4	0.4
Vitamin mix*	0.5	0.5	0.5
Per cent calcium	2.3	2.5	4.6

*Supplies per pound of feed: 1,996 I.U. vitamin A, 646 I.C.U. vitamin D_3, 6 mcg. vitamin B_{12}, 2 mg. riboflavin, 4 mg. calcium pantothenate, 9 mg. niacin, 200 mg. choline chloride, 2.5 I.U. vitamin E, 0.5 mg. menadione sodium bisulfite complex and 0.08 gm. $MnSO_4$.

TABLE 5. Rate of Egg Production and Thickness of Egg Shells from Hens Fed Two Levels of Calcium

Per cent Calcium	—Per cent— Production Exp. 1	Exp. 2	Shell thickness (mm x 1000) Exp. 1	Exp. 2
2.5	62.8	63.5	315	306
4.6	66.8	64.7	323	317

TABLE 6. Thickness of Egg Shells from Hens Fed Various Levels of Calcium and Phosphorus (at end of 8 months' production)

	Egg shell thickness (mm x 1000)		
% P*	2% Ca	3.75% Ca	5.5% Ca
.345	305	341	391
.395	324	360	353
.445	315	...	364
.800	318	343	355

*0.345% from plant source, remainder from defluorinated phosphate.

TABLE 7. Thickness of Egg Shells from Hens Fed Various Levels of Phosphorus from Soft Phosphate and Defluorinated Phosphate with Various Levels of Calcium (at the end of 2 months of production)

—Supplemental phosphorus— Level, %	Source	—Egg shell thickness— (mm x 1000) 2% Ca	3.75% Ca
0	—	313	300
.05	Soft	280	353
.11	Soft	297	350
.46	Soft	274	331
.05	Defluorinated	301	362
.11	Defluorinated	300	...
.46	Defluorinated	300	345

TABLE 8. Rate of Egg Production and Thickness of Egg Shells from Hens Fed Ascorbic Acid

Level of ascorbic acid	—Per cent— production Exp. 1	Exp. 2	Shell thickness (mm x 1000) Exp. 1	Exp. 2
0	65.4	65.2	317	313
10 mg./lb.	64.2	63.1	322	310

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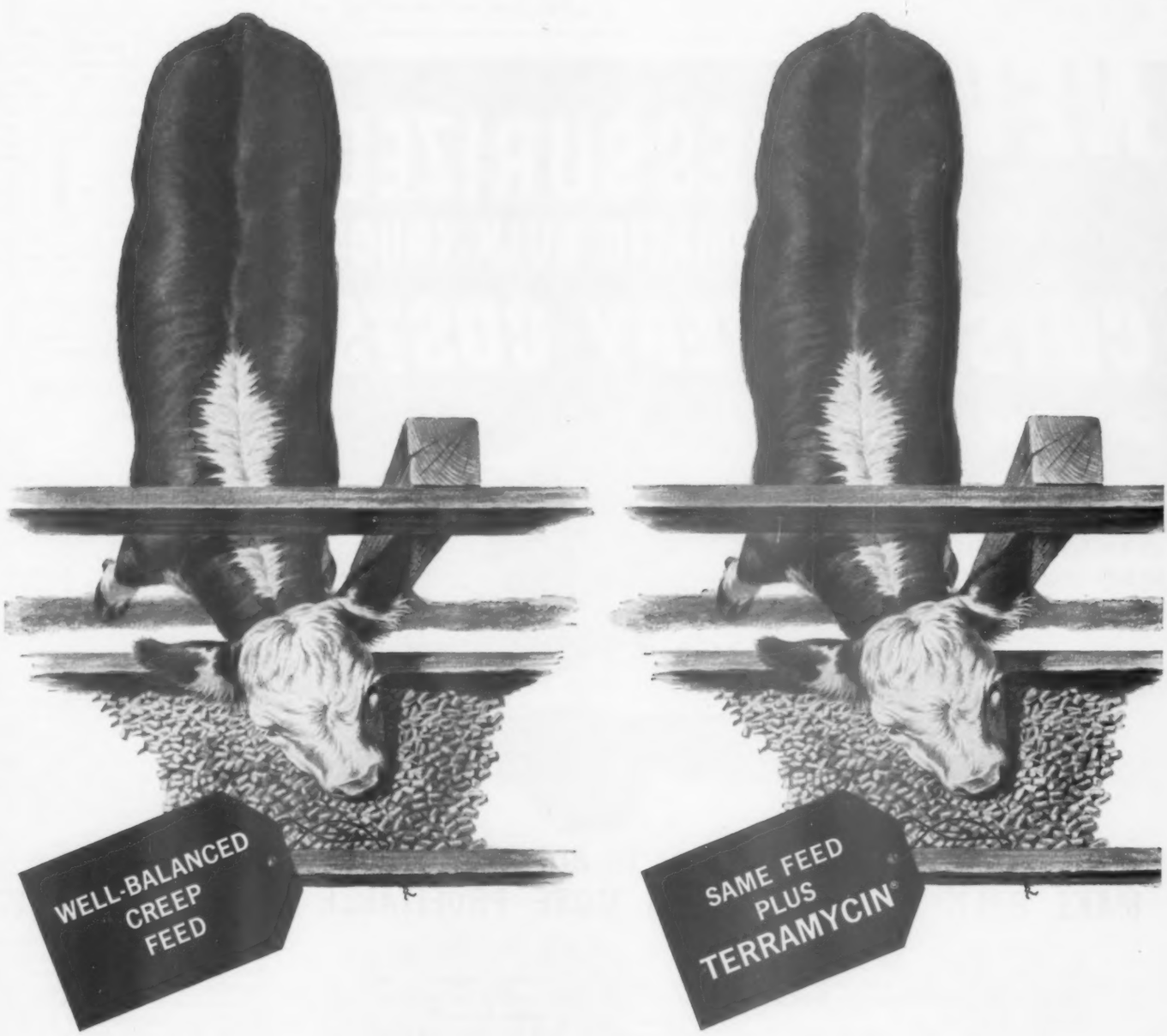

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that these are not real differences. Egg shell thickness was significantly increased by the feeding of the higher level of calcium in each of these two experiments. These results agree with those reported by Dr. Petersen, and confirmed at many other experiment stations.

Other Experiments

At the present time, we have two additional experiments underway in which we are checking the effect of different levels of calcium upon the thickness of egg shells. In these experiments we wanted to determine whether feeding high levels of calcium would affect the response to different levels of phosphorus. Table 6 shows the thickness of egg shells as influenced by levels of calcium and phosphorus in the feed.

The calcium level of one diet was below the National Research Council's recommendation. We also used a level of 3.75% and 5.5% calcium. Two percent of calcium, as expected, was not adequate to give maximum egg shell thickness, and production also was lowered. No difference in rate of egg production was found between groups receiving 3.75% and 5.5% calcium (75 to 80% for 8 months). An improvement in egg shell thickness was obtained during May and early June by increasing the level of calcium from 3.75 to 5.5%. This may be attributed to the extremely hot weather in Florida during this period. Nevertheless, it is indicated that the calcium level should be at least 3.75% or higher during hot weather in order to get maximum egg shall thickness.

Table 7 gives the results, at the end of two months, of another test in which we are comparing two different sources of phosphorus with different levels of phosphorus and calcium. As mentioned earlier, we felt that the lowered egg shell thickness with high levels of soft phosphate was attributed to the unavailability of calcium in the soft phosphate. The results from this test certainly bear this out. This would point out that the source of phosphorus can affect egg shell thickness, but it is not due to the unavailability of the phosphorus in the supplement, but due to the availability of the calcium.

Undoubtedly, most of you have read in the many popular magazines, during the past two years, that workers at Colorado experiment station have found that vitamin C in hen feeds will improve egg shell thickness during warm weather. Two tests have been conducted at Florida testing the use of vitamin C in hen feeds during warm weather. These experiments were conducted during warmer weather with birds that had been in production for 10 or 11 months before the test was started. Table 8 gives results of this test. The addition of vitamin C to the feeds certainly did not greatly affect rate of egg production, although it was slightly lower. The addition of vitamin C did not influence egg shell thickness. We conclude from these experiments that the addition of vitamin C to laying hen feed will not benefit egg shell strength. This is in agreement with reports some of the other experiment stations have made.

Last, I would like to briefly discuss calcium gluconate, citrate and lactate. These are compounds which are being promoted for use in laying hen feeds to improve egg shell thickness. Results obtained by Dr. Wilkerson, from LSU, which were recently reported at the federation and poultry science meetings, indicate that the addition of calcium gluconate, citrate or lactate to the feed did not improve egg shell thickness. This is in agreement with unpublished data from the Ohio experiment station, in which they found that the addition of calcium gluconate did not improve egg shell thickness, although they thought that there was some indication that the outside appearance of the egg was improved.

SUMMARY — The level of phosphorus in the feed will not affect egg shell thickness. The level of calcium certainly is critical, especially during warmer weather. Indications are that the level of calcium in the feed should be at least 3.75% in order to get maximum egg shell thickness during warm weather. This can be lowered considerably during cooler weather, and probably 2.7% is adequate. However, feeding of high levels of calcium throughout the year will not affect egg production. It will affect amount of feed required to produce a dozen eggs since addition of ground limestone or ground oyster shells to the feed lowers the energy content of the feed.

The addition of vitamin C, calcium gluconate, citrate or lactate to the feed apparently is of no benefit in increasing egg shell thickness.

Coccidiosis Research Findings Told

ATHENS, GA.—Immunity to coccidiosis is not as long lasting as previously thought, according to findings in recent research at the University of Georgia.

Research by Dr. W. Malcolm Reid of the university's poultry division shows that chickens lose some or all of their immunity to the coccidiosis species S mivati and E acervulina after 20 weeks, based on weight loss one week after challenge.

Results of Dr. Reid's work indicate the answer to the old problem of why these two species often give rise to "laying house coccidiosis." As the immunity gradually wears off, birds again become susceptible unless there are enough infective coccidiosis organisms present in the litter to maintain a level of immunity. Immunity lasts much longer with other species, such as cecal coccidiosis, and is less likely to show up in the laying house.

Outbreaks of coccidiosis in the laying house may occur when there has been no original exposure or when some management factor interrupts the cycling, reinfection and reimmunization of the flock.

Observations by Dr. Reid indicate that moving flocks to new quarters with new litter often precedes an outbreak of coccidiosis. Without coccidiosis organisms present in the new litter to maintain immunity, the birds become susceptible and, at a later date, may be exposed to large enough numbers of organisms to cause an outbreak of coccidiosis.

The trend toward the started pullet business has increased coccidiosis problems and moving flocks increases the risk of coccidiosis outbreaks. Dr. Reid is continuing research to gain further information.

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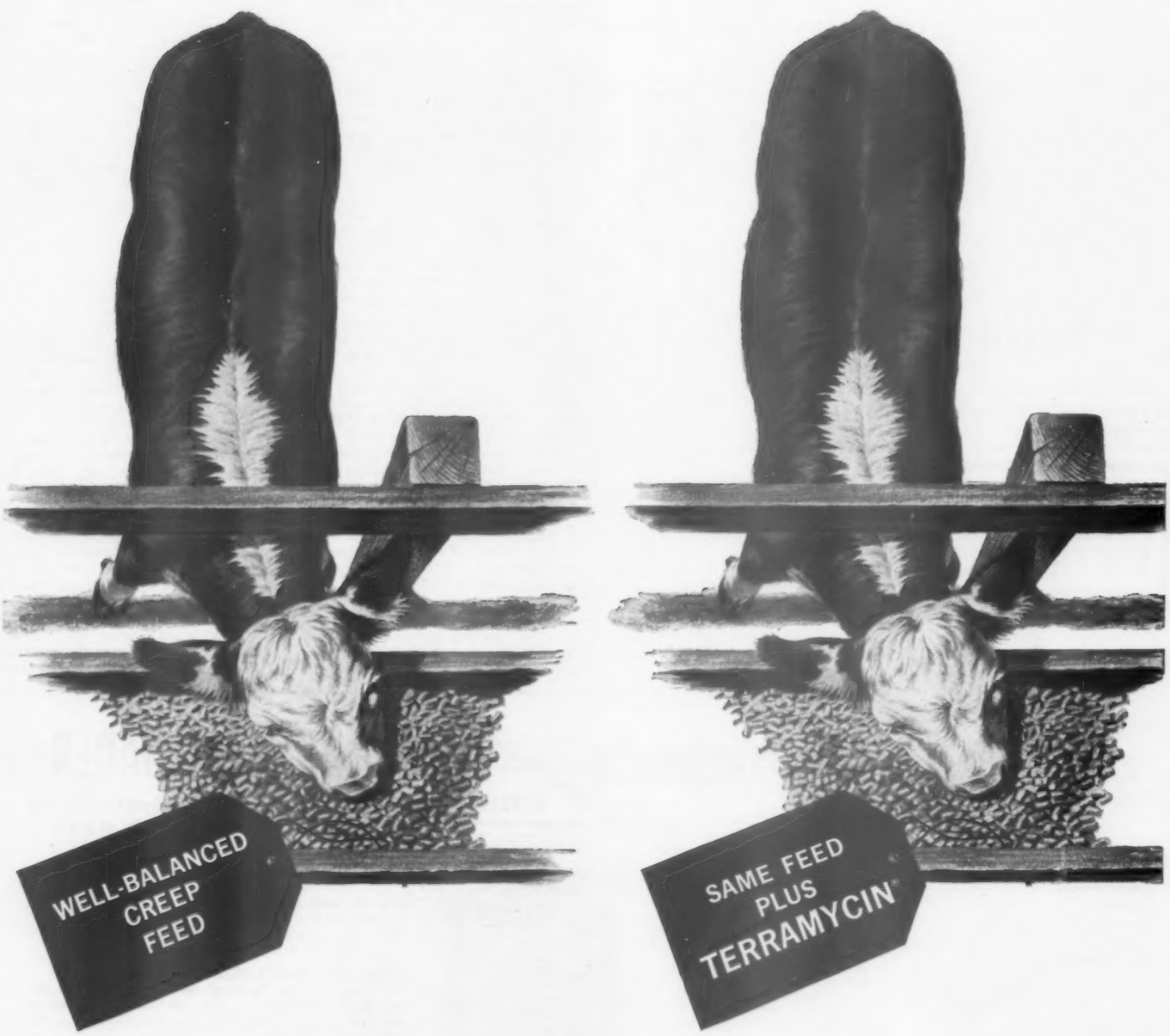

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JOE BROOKS

BY AL P. NELSON

Sales Meeting Causes Thinking—and Dreaming

A cold rain, mixed with snow, struck Hansen's Creek the day following Joe's monthly sales training meeting. Therefore, there were few farmers in town that morning.

As Joe was opening his mail, the door to his office opened. In came tall, young pimply-faced Butterball Barlow.

"Hi, Butterball," greeted Joe. "I'll be with you in a minute. Gotta open this envelope first. Looks like there's a check in it."

He slit open the envelope, took out a check, smiled and handed the check to Rusty Hagen, the bookkeeper, who sat nearby. "The rest of the mail is third class stuff. It can wait. What's on your mind, Butterball?"

Butterball flushed a little. "Joe, I didn't sleep very well last night. I feel all dragged out this morning."

"Oh," said Joe. "What was the matter?"

"That—that sales meeting," Butterball said. "I couldn't go to sleep right away. I kept thinking of what you said—that we should think hard about ideas that could be used to boost our feed business. Joe, I'll bet I was awake two hours thinking of ideas—or trying to. Man, I felt my brain was whirling about a hundred miles an hour. I sure gave it a workout."

"Did you come up with an idea?"

Sadly Butterball shook his head. "No, Joe, I'm sorry. I guess you'd better fire me. I never can come up with good ideas like Milt or Smiley Johnson or Pop Henley."

"Willing Worker"

"Fire you!" exclaimed Joe. "Why I wouldn't think of it. You are dependable, never miss a day's work, and you are always willing to do any job I ask you to do."

A glimmer of hope crept into Butterball's brown eyes. "Is that worth somethin', Joe?"

"It certainly is, Butterball. In every plant there are many jobs to be filled. Some employees are good talking to customers; others are not. Some employees can run the machinery well; some can't. Incidentally, you certainly are a good man at the grind and mix panel."

"Thanks, Joe."

Joe looked at the young employee, a kindly expression in his eyes. "Butterball, it's all right to compare yourself with others now and then to see if you can improve. But, if you are working to the best of your ability, never sell yourself short. There are some things just about every person can do very well. Be happy you can do some things well. Maybe the things you do well another employee cant' do quite as well. So things level off in a company like this. We pool our talents and that gives us an organization that makes a profit."

Tells About Dream

Butterball smiled with relief. "Gee, that makes me feel a lot better, Joe. I like this mill and I like you and the fellows here. I don't want to leave. Now I'm going to play fair with you, Joe. I had a dream about this mill last night and it bothers me. I just have to tell you. Maybe you'll want to fire me after I tell you the story."

Joe looked puzled. "A dream about the mill? Well, tell me about it."

Butterball coughed nervously. "Well, I suppose it was all because I was working my head so much trying to get a real good idea for you," he said. "When I did drop off to sleep, I had a wild dream."

"What?"

"Well, I dreamed we were havin' a sales training meeting, and you kept askin' us for ideas. You asked what in the world did we think you were feeding us big steak dinners and giving us expensive cigars for—just because you loved us? No, you were doing it so we'd get off our feed sacks and come up with some money making ideas for you and for us."

"Huh," said Joe. "I'm glad you said I included you fellows in the money making, too."

Butterball was sweating, even though the room wasn't warm. "I've got to be honest with you, Joe. I've got to tell you just how it was. Then I dreamed that I got up and told you that I had an idea for you. You said, 'Go ahead, Butterball.'"

"Well, Joe, I started to talk like I never talked before. Man, I was good. I used words I never used before, and you and everybody else just gaped at me. I guess you thought I was better than Bob Hope or somebody. I told you that the name of your feeds, 'Joe's Quality Feeds,' wasn't catchy enough in this atomic age."

"Hum," commented Joe.

"I told you you ought to get up to date," Butterball went on miserably. "I said you ought to name your feeds 'Rocket Feeds,' that you ought to get a bag manufacturer to make you some bags in the shape of a rocket, and that maybe you could talk some storage tank manufacturer into making steel storage tanks in the shape of a rocket, with the pointed end up, and lettering on them 'Use Rocket Feeds, They'll Give Egg, Milk and Meat Production a Real Lift.'"

"Boy, you sure had a dream," Joe stated.

"I said you could have a rocket nose cone made to fasten to the top of the truck cab and lettered 'Another Load of Rocket Feeds Taking Off.' And that all us men in the mill could wear peaked, rocket plastic hats, with advertising. Then I said in the salesroom you could construct a big rocket hut. Inside, you could

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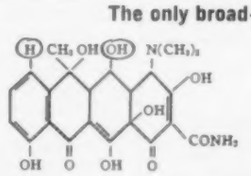

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serve coffee and doughnuts and have peg board walls to show Rocket feed advertising and photos of farmers raising hogs and cattle on Rocket Feeds." Butterball paused. He was out of breath.

"Butterball," said Joe in amazement. "You sure had some dream."

"I know it," Butterball said. "Go ahead and fire me for criticizing you and the mill. I deserve it. But I had to tell you. I had to be honest with you."

"You're not going to be fired," Joe said comfortingly. "Your wild dream has some merit. It showed me the value of unity in an idea. You carried out the rocket theme in every promotion you suggested. Maybe I can apply that theme to my promotions in a more restricted form."

"Joe," said Butterball anxiously, "I dream like this quite often, but I'm afraid to tell anyone. I dream the most awful things, like I'm killing Khrushchev, or jumping off a building."

Joe smiled. "You're normal, Butterball. Just about everyone has wild dreams once in a while."

Butterball signed with relief. A smile broke over his honest features. "Golly, Joe, I feel better now. I guess I'm not an odd ball. I'm a feed man and glad to be one. Watch me go back to work and put in a good day for you."

Western Grain, Feed Program Announced

DES MOINES—"Creating a Better Image" will be the theme for the 62nd annual convention of the Western Grain & Feed Assn. of Iowa to be held here Nov. 19-21.

More than 1,000 feed and grain men from Iowa and surrounding states are expected to attend, according to Bob Skinner, executive vice president of the association.

Speakers scheduled to appear include: Med Maxwell, radio commentator and rural relations advisor, Allied Mills, Inc., Ft. Wayne, Ind., who will speak on "Just Me," and Ron Kennedy, vice president-public affairs, F. H. Peavey & Co., Minneapolis, whose topic is "How We Look Politically—A Matter of Survival."

Other speakers and their topics are: Keith Royer, firemanship training, engineering extension, Iowa State University, Ames, Iowa, "Fire Prevention in Feed Mills and Elevators"; Dr. Harold Gunderson, extension entomologist, Iowa State University, Ames, Iowa, "Proper Control of Insects and Rodents in Managing Stored Grain"; William Hukill, agricultural engineer, Iowa State University, Ames, Iowa, "Proper Aeration and Drying in Managing Stored Grain"; Alvin E. Oliver, executive vice president, Grain & Feed Dealers National Assn., Washington, "Government and Your Business," and Oakley Ray, director of research, American Feed Manufacturers Assn., Chicago, "What Does the Future Hold for the Feed Man?"

Panel Discussions

A panel considering "How to Use Credit Effectively" will be moderated by Robert Zinn, Mason City, Iowa, district sales manager, Allied Mills, Inc. The panelists will include: Don Boyd, Lakota (Iowa) Farmers Elevator Co.; Don Bruntlett, Bruntlett Elevator, Gowrie, Iowa, and John Guise, Delmar (Iowa) Grain & Feed, Inc.

A panel discussing "What Does the Future Hold for Grain Men?" will be moderated by Dean Daniels, McMaster Grain Co., Sioux City. The panelists will include: Harold Brightwell, program specialist, state ASC office, Des Moines; Joseph Haspray, Evanston, Ill., director, Commodity Stabilization and Conservation Service, U.S. Department of Agriculture, and Roland F. Ballou, assistant deputy administrator, commodity operations, Commodity Stabilization and Conservation Service, Washington.

B. C. Swanson, owner of Swanson Elevator Co., New Sharon, Iowa, and president of the association, is slated to discuss future plans and activities of the association.

Current officers in addition to Mr. Swanson are: Glenn Swartzendruber, Wieston Grain Co., Manson, Iowa, vice president; C. D. Whitaker, Des Moines, Swift & Co., treasurer, and Robert L. Skinner, Des Moines, executive vice president.

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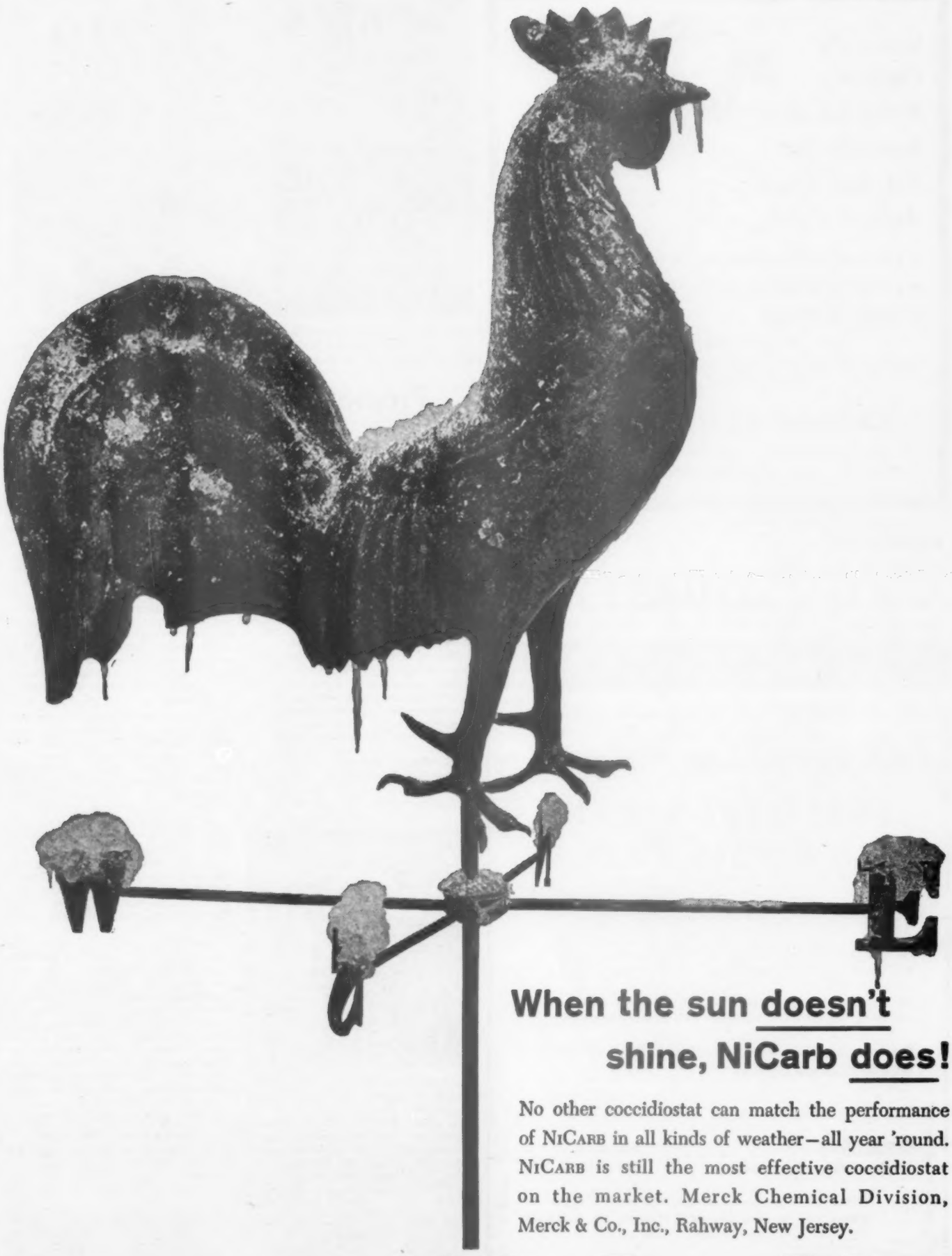

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1961 FEEDSTUFFS ANALYSIS TABLE

Prepared and Copyrighted by
Charles H. Hubbell, Feed Consultant, Chicago

The 1961 Feedstuffs Analysis Table, showing the analysis of more than 80 feed ingredients, is available in a large size for posting on the wall for handy reference.
The table includes data on protein, fat, fiber, mineral, energy, vitamin and amino acid content of ingredients used in feed formulation.

The large size table is 20 by 29 inches. It is available at a price of $1.00 per copy.

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EXTERIOR VIEW—This is the feed mill and elevator of Eagle Mill & Elevator Co., Higginsville, Mo. D. A. Meinershagen, president, has utilized good will and promotional projects successfully in his business.

Promotional Projects Help Build This Business

By Al P. Nelson
Feedstuffs Special Writer

Opportunities for building good will, as well as other promotional projects exist in almost every community where a feed man operates. D. A. (Dick) Meinershagen, president of Eagle Mill & Elevator Co., Higginsville, Mo., is engaged in a number of these projects which cover a wide scope of activities.

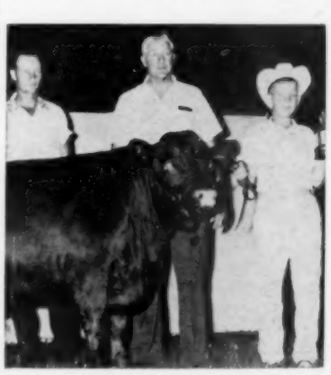
His firm is actively engaged in cooperating with 4-H clubs in the trade area. Eagle Mill & Elevator Co. has given trophies for the past ten years to 4-H boys and girls who qualify for honors in the projects sponsored by the organization. Last year the feed firm awarded a trophy to the grand champ steer of Lafayette County, and paid 32¢ lb. for the animal. Mr. Meinershagen helped the winner feed out the steer. Many of the 4-H boys and girls who enter animals in the 4-H projects buy their feed from Eagle Mill & Elevator Co., and get valuable advice in raising livestock.

Lester Bertz, in the sales department of the feed firm, is a former 4-H member and is in charge of aiding 4-H members with their projects. Mr. Meinershagen is also president of the Lafayette County Breeders Assn. After the 4-H judgings, this association sponsors the sale of the show beef. Last year 20 4-H steers were sold by the breeders association at the sale.

"When a show animal is bought we pay the boy directly after purchase," says Mr. Meinershagen. "We furnish the scale, weigh the calf in front of spectators, announce the weight and local auctioneers aid in auctioning off the animals. This creates a great deal of interest."

Mr. Meinershagen says the 4-H show winners usually get an option from beef buyers to hold their animals for showing at the state fair. The breeders association also gives a halter to the champion in each beef breed. A gold watch is given, too, to the best showman or showgirl in the event.

"About 30-35 boys and girls enter this 4-H event," says Mr. Meinershagen, "and some have more than one entry. As an individual, and as president of the Lafayette County Breeders Assn., I am interested in helping farm boys and girls learn more about agriculture and the future it holds for them. Through our county association and the efforts and cooperation of individual members and businesses, we feel we are aiding many of these 4-H members in making their decisions for the future."



GRAND CHAMPION — This is the grand champion beef steer which Eagle Mill purchased at 32¢ lb. In the photo, left to right, are Lester Bertz, who is in the sales department of the feed firm; D. A. Meinershagen, president, and Jimmie Thieman, who won the championship in 4-H competition.

County Agent Cooperates

Mr. Meinershagen says that the feed firms in the area and the breeders association get excellent cooperation in promotional events from Ed

LAYING HOUSE—This new laying house, which handles 7,000 layers, was erected by a contract egg producer of Eagle Mill & Elevator Co. The egg producer sells to a chain of stores.

Schwitzky, county agent, and his assistant, Bob Gilson. The latter is in charge of 4-H projects. Lafayette County has 622 members in the 4-H organization, of which 300 are in Mr. Meinershagen's trade area. Of the 622 members, 118 are enrolled in beef cattle projects, 58 in baby beef events. Ninety members are in calf projects. There are 24 4-H clubs in Lafayette County, and one club has 60 members. That club won the 1960 governor's trophy based on total livestock points.

"I think that these figures show how important 4-H work is in this county," Mr. Meinershagen said. "These boys and girls are the farmers of the future. When our breeders association and individuals work with these youngsters, we are helping them and ourselves too."

Another activity which the Lafayette County Hog Breeders Assn. promotes is an annual August Hog Show. Judges for the event judge the hogs on foot, then slaughter them and cut them up. The ladies extension group engages a barbecue expert to prepare the meat and the ladies serve the dinner. The various cuts of meat are explained, and the meat is then auctioned off. A processing plant executive is on hand, and he takes the purchased meat to the locker, freezes and stores it. Mr. Meinershagen says his firm contributes $50 to prize money for the top three barrows in one class of the show.

"Quite a number of farmers attend this event, and the proceedings concerning judging a good hog, etc., impress them," says Mr. Meinershagen. "Such an event, I believe, has an effect on selection of better breeding stock in this area."

The Eagle Mill & Elevator Co. periodically publishes advertisements featuring 4-H club activities and other similar events in its trade area. Publicity like this spreads the news about important farm activities, and stimulates greater attendance at the 4-H and hog show.

"During the winter, the 4-H also has a recognition banquet, and we contribute prizes to that, too," says Mr. Meinershagen. "We are happy to be able to take part in any worthwhile project which benefits these farm youngsters."

Egg Production

Several years ago, Mr. Meinershagen and Mr. Bertz thought something should be done about increasing egg production in their area, and in providing a steady market for quality eggs. They contacted a large chain store organization, and came back with an agreement from the chain to accept quality eggs from their community. The two men then entered a partnership agreement to promote the project.

At this time there are 10 egg producers supplying eggs to the chain store group. These producers have 50,000 hens. Most of the flocks are 5,000 hens and up. One flock is 11,000 hens.

To sell eggs on this program, a producer must collect eggs 3-4 times a day, wash them and have a cooler. Eggs with cracks are not accepted.

BEEF CATTLE PROJECT—Pictured above, D. A. Meinershagen, left, and Lester Bertz are partners in a beef cattle project, part of which can be seen here. Farmers study the feeding operation and ask questions, they say.

The producers are independent, and all of them get their feed from Eagle Mill & Elevator Co. A few of the operations are cage and the rest are floor operations. Mr. Meinershagen says that, in the two years the egg marketing plan has been in operation, he has not lost one feed customer from the egg producing group.

"We work together very well without a definite feed purchasing contract," says Mr. Meinershagen. "Our producers are glad to have a steady market for their quality eggs. The chain store group picks up the eggs twice a week."

18,000 Hens in Group

Mr. Meinershagen and Mr. Bertz have 18,000 hens in this egg marketing group. They contract with two farmers to care for the hens, and pay the farmers so much per hen per month for labor charge. The farmers furnish the housing, equipment and labor, while Mr. Meinershagen and Mr. Bertz furnish the pullets and feed and handle the marketing arrangements. One farmer has 11,000 layers on this basis, the other has 7,000.

One contracted farmer has a new 42 x 185 ft. layer house, handling 4,000 hens. A nearby older house has 3,000 layers. The latter house also has a large cooler room and egg washing and drying equipment.

Mr. Meinershagen and Mr. Bertz also raise 7,000 replacement pullets at a time in a former broiler house on another property. Mr. Meinershagen says that he can raise pullets currently for about $1.25.

"This contractual arrangement has been profitable to me and to the egg producers involved," he commented. "We certainly have been able to increase interest in the raising of layers through our poultry operation and have increased our tonnage of feed sales. Many of our producers are now assured a steady, all year around market for quality eggs, which is worth striving for."

In partnership with Mr. Bertz, too, Mr. Meinershagen is also feeding beef cattle. Currently, the men have 215 cattle on a tract of land about a mile

EGG PRODUCTION PROJECT—D. A. Meinershagen, president of Eagle Mill & Elevator Co., Higginsville, Mo., is shown at right on the first photo above. With him is one of his contract farmers, one of 10 who produce eggs for a chain store group. The second picture shows some of Mr. Meinershagen's layers in a house erected by a contract egg producer.

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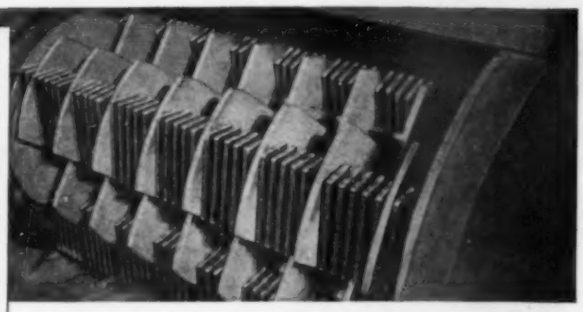

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from town. This herd is divided into 63 steers and 152 heifers. A feeding alley runs between the two rows of pens. One row houses the heifers, the other the steers. The feeders were made by Eagle Mill & Elevator staff, since the firm also sells building materials.

"The fact that we feed cattle and layers brings a lot of farmers to the layer houses and to the cattle yard to study our operations and ask questions. Naturally we think this is good publicity for us in selling feed. We keep accurate feeding records and show them to interested farmers. Both layers and cattle projects are profitable—they stand on their own feet financially."

In connection with his mill operations, Mr. Meinershagen has a grain bank deal which is tied in with the rest of the mill operations. For example, he charges a farmer 25¢ cwt. This includes grain bank storage, grinding, mixing and delivery, drying charge and shrink of corn. Shelling of corn is 6¢ bu.

If a customer comes to pick up his feed he pays 20¢ cwt. instead of 25¢.

Also, to promote the feeding of beef cattle, Eagle Mill conducted a cattle tour July 26. The tour covered three feedlots, including his own. The advertising on the event told farmers they could see cattle on feed, see feeding records and hear the roughage story.

"We find that these promotional and marketing activities build interest in better feeding and production," says Mr. Meinershagen, who is also secretary-treasurer of the Missouri Grain & Feed Assn. "We feel that, as feed men, it is our duty to initiate action in some of these events if such action isn't forthcoming from other sources. Our annual feed volume, I think, reflects the increased business that we are getting because our customers have better nutritional knowledge to help them make their operations more profitable."

MISS GEORGIA AGRICULTURE—Sandra New, Atlanta, representing the Georgia Poultry Federation, was named Miss Georgia Agriculture at the Southeastern Fair in Atlanta. Sandra was first runner-up in the Poultry Princess finals at the fourth annual poultry coronation meeting last June.

Wisconsin Feed Groups To Hear 3 Speakers

MILWAUKEE — Three speakers will be on the program for each of five district meetings planned by the Central Retail Feed Assn. in five Wisconsin cities in November.

Scheduled to speak are Paul W. Mattson, manager, agricultural products division, Morton Salt Co., Chicago, on the topic "Mineral Merchandising Myopia"; Walter B. Griem, head of the laboratory division of the Wisconsin State Department of Agriculture on "Latest Feed Facts," and Hiram Hegge, president of the Central Retail Feed Assn., who will discuss "The Challenge for Business."

Date, place and local chairmen of the meetings: Nov. 6, Hotel Eau Claire, Eau Claire, Donald F. Crane; Nov. 7, Elks Club, Wausau, David M. Humphrey; Nov. 8, Beaumont Hotel, Green Bay, Tom A. Strid; Nov. 9, Elks Club, Fond du Lac, Gerald Stutz, and Nov. 10, Holiday Inn, Janesville, Irene Wonn.

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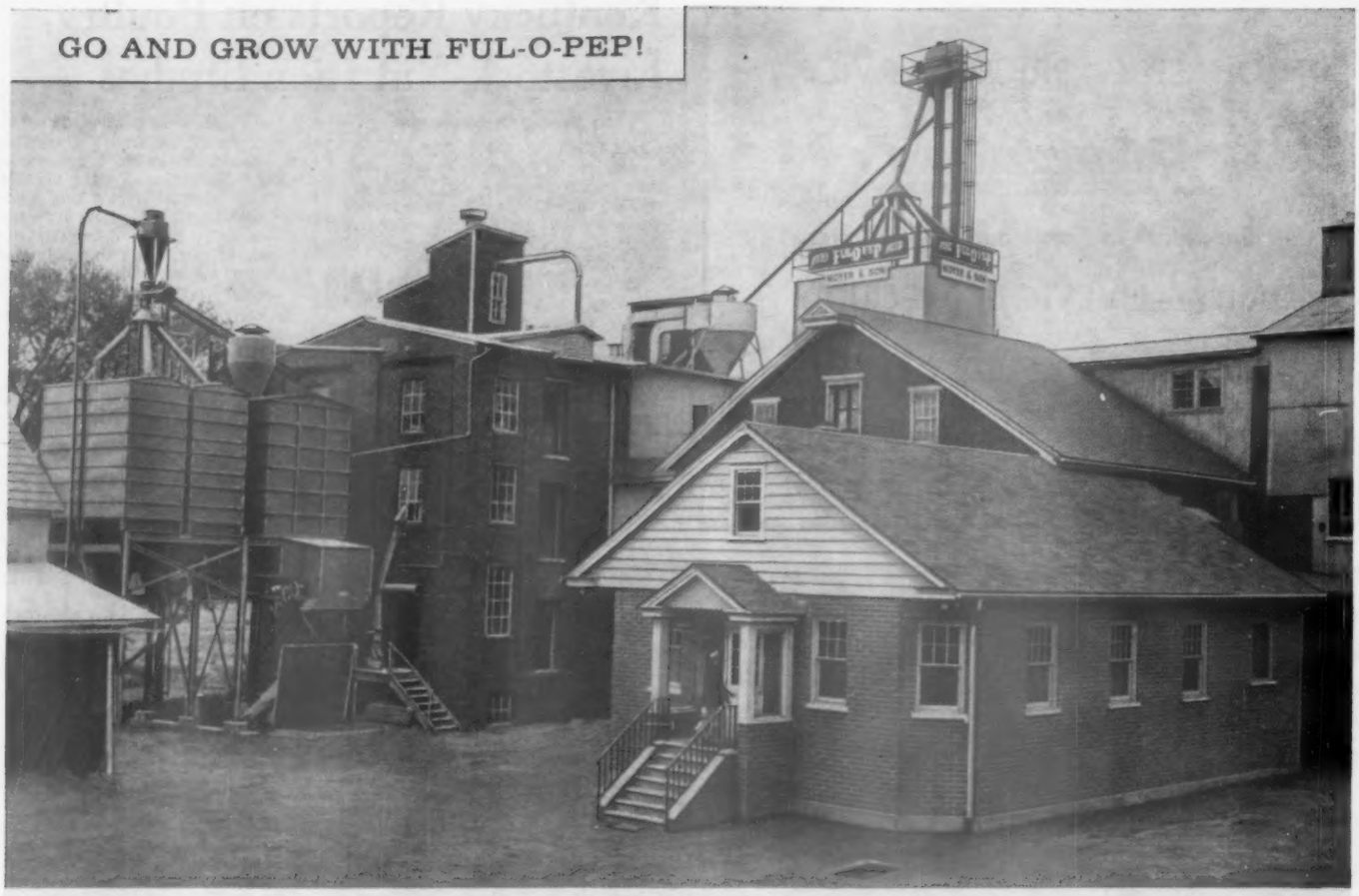

"Yes, more and more of our customers are turning to bulk," said Lester Clemmer, partner. "And now we're geared to serve them—efficiently." At one time, bags were slung up to the fourth floor one at a time on a rope and pulley sling. Now, an undertrack screw and elevator is used. Bulk bins provide storage for 100 tons of Ful-O-Pep concentrates, and 44 tons of mixed feed. Moyer & Son maintain one bulk truck for on-farm delivery.

"Our bulk sales increasing

...we're 70 years old and still growing!"

—says Moyer & Son, Reliance, Pa.

"Even though we've been in business 70 years, our new bulk facilities put us right up front with modern feeding trends," said Nelson Moyer of Moyer & Son, Reliance, Pa. "It's too early to tell how much our increase in tonnage will be," he continued. "But we feel certain bulk handling will help us step up total sales."

"Quaker gave us every possible assistance in setting up our new bulk installation," Jacob Moyer, one of the partners, said. "But they didn't stop there. Ful-O-Pep resale men are going right out to the field to help us bring in business."

GO AND GROW WITH FUL-O-PEP! *For information on how Ful-O-Pep can help you build for the future, write: Feed Sales Manager, The Quaker Oats Company, Merchandise Mart, Chicago 54, Illinois.*

Bulk cut handling costs substantially, for Moyer & Son...and customers like the savings they make in lower feed prices. It's a strong appeal for selling new prospects, they say.

Third generation for Moyer & Son, and Ful-O-Pep dealers for 40 years...they're still growing! Partners, and first cousins, are (left to right): Lester Clemmer, Jacob Moyer, and Nelson Moyer.

Grind-mixing service has been available for several years. Ful-O-Pep Layer Concentrate and Ful-O-Pep Super Milking 32 are extremely popular with customers, who keep coming back again and again.

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Kentucky Reports on Poultry, Livestock Nutrition Studies

By Special Correspondent

LOUISVILLE, KY.—Kentucky research on the influence of nitrate intake on carotene utilization was described at the annual conference sponsored by the Kentucky Feed & Grain Assn. and the University of Kentucky.

The report on vitamin A and nitrate by Dr. G. E. Mitchell was just one of several reports by Kentucky scientists on recent livestock and poultry nutrition and other research.

VITAMIN A AND NITRATE—Dr. Mitchell pointed out that many factors affect vitamin A status in feedlot cattle but that one factor which has received considerable attention is dietary nitrate. Kentucky research in this field has been directed at defining the influence of nitrate intake on carotene utilization. The key to carotene utilization is its conversion to vitamin A. Most conversion normally takes place in the wall of the small intestine. Therefore, Kentucky scientists have approached the problem by trying to determine the influence of nitrate on the ability of the wall of the small intestine to handle carotene normally.

"In recently completed preliminary studies," said Dr. Mitchell, "we have measured the rate of disappearance of carotene from ligated rat intestines. Even relatively short periods of nitrate feeding appear to produce a considerable increase in carotene disappearance. This is true even when nitrate feeding is discontinued 24 hours prior to the measurement. It might be postulated from this and other observations that nitrate causes carotene to be absorbed without being converted to vitamin A. Future trials will be designed to test this hypothesis.

"It is obvious that we are just beginning to develop the basic information needed to properly relate nitrate and vitamin A. Elevated nitrate levels are quite likely to be responsible for precipitating some unexpected cases of vitamin A deficiency. However, other factors are undoubtedly involved. Recent Purdue results suggest that levels of vitamin A which we have previously considered adequate will not always support optimum performance even when a nitrate stress is not present. The need for a thorough re-evaluation of vitamin A and carotene requirements under various conditions is clearly indicated."

POULTRY NUTRITION—Nutritional research with poultry was outlined by Dr. John Begin of the university.

Ground Whole Oats for Laying Hens—Previous studies have indicated that whole oats, when fed as a supplemental grain to laying hens, stimulated egg production. Further studies with all-mash diets showed that adding 15 or 30% of ground whole oats to the diet of hens in individual cages also had had a stimulatory effect on egg production. Sixty percent oats was found to depress production.

Experiments were run at the Robinson and Western Kentucky stations to study further the optimum level of oats in laying diets of hens on the floor and to study effects of a crude fungal-bacterial enzyme product in improving utilization of diets containing high levels of crude fiber in the form of ground whole oats. A basal corn-soy-meat scrap diet was used.

Data showed that addition of whole oats had a slightly beneficial effect for laying hens and that addition of an enzyme preparation to a high-oat diet stimulated egg production but did not improve feed utilization.

In comparing diets containing whole ground oats with a diet made up chiefly of corn, egg production was slightly higher when 30% whole ground oats was added; however, addition of 50% whole oats without enzyme supplementation reduced the number of eggs. Presence of oats reduced mortality to some extent, but in all comparisons of oats vs. the diet without oats, amount of feed per dozen eggs was higher and feed cost per dozen was higher.

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You'll find all the details, along with many other things you'll want to know, in our booklet, "Let's Build A New Kind of Feed Mill." We'll be glad to send you a free copy.

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50% oats improved egg production but had little effect on feed utilization, mortality or feed cost.

Protein Supplements for Replacement Chicks—Trials were run at the Western Kentucky and Robinson substations to study soybean meal, fish meal and meat and bone scraps at equivalent protein levels. Some 650 White Leghorn pullet chicks were used. Pullets at the Western Kentucky station were set back in growth because of a minor vitamin deficiency at two weeks of age; this was corrected but may have influenced results.

Results indicated the only significant difference in growth among the protein supplements was caused by addition of fish meal. At Robinson, fish meal gave a significant decrease in growth. At the Western Kentucky station, it produced a significant increase. Reversal of results may have been due to the vitamin inadequacy of the early Western Kentucky diets, Dr. Begin said. Since fish meal is a fair source of some B-vitamins, its presence in the deficiency diets may have supplied enough nutrients to prevent the deficiency from retarding growth. There was no explanation why fish meal depressed growth at Robinson because it is generally regarded as an excellent protein supplement.

Mortality was not influenced by the diet, and feed utilization was not greatly affected at Western Kentucky while at Robinson meat and bone scraps gave the best feed utilization.

Cost data indicated that meat and bone scraps produced pullets for the least cost, while the fish meal diet was more expensive.

Antibiotics in Laying Rations—A trial was conducted at the Robinson sub-station to obtain further informaton on antibiotics for laying hens under Kentucky conditions. The trial was designed to study effects of continuous supplementation of a simplified corn-soy diet with an antibiotic combination of procaine penicillin and streptomycin at a level of 40 gm. per ton.

There was little difference in production of White Plymouth Rock pullets with or without antibiotics in the diet, but use of antibiotics in the feed of New Hampshire pullets produced an increase of six more eggs per pullet over a six-month period. The antibiotics reduced mortality slightly for each breed. There were no improvements in feed utilization, egg weights, egg quality or shell thickness. Feed cost per dozen was higher when antibiotics were used.

The results, said Dr. Begin, are in close agreement with results at the university farm with yearling hens in cages. In the cage trial, after six months of antibiotic supplementation, no improvement in production was observed. In this trial, 100 gm. of the same antibiotic mixture was fed per ton of feed.

"An interesting sidelight of the recent trial," Dr. Begin said, "was the fact that excellent production was obtained with a very simple laying diet."

SWINE RESEARCH—Dr. H. W. Miller, reporting on the swine research program at the University of Kentucky, called attention to improvements in the university Hampshire herd from 1951 to 1959. These are reflected in an average of 9.0 pigs farrowed in 1951 to 10.7 in 1959; pigs weaned 7.6 in 1951 to 9.4 in 1959 and average 56-day weight of 29 lb. in 1951 to 37.8 lb. in 1959. Similar improvement in feed per 100 lb. of gain, back fat, length of carcass, percent of lean cuts, choice No. 1 carcasses attested to steady improvements through selection of sires, management and nutrition.

"With a problem of scours in brood sows and litters about three years ago, nf-180 was used extensively in the feed to the sow three weeks before farrowing and three weeks after," Dr. Miller said. "We had less scours and did not lose as many pigs under this plan. The same general results were obtained when nf-180 was fed two weeks before farrowing and two weeks after farrowing. The percent livability was raised from 55% to 79.5% in pigs from 3 to 8 weeks. Whether due to the nf-180 or something else, the scours problem has improved so that this is no longer fed routinely in sow rations. nf-180 solution is now used for treating only those sows or pigs needing it. It is no longer necessary to treat the entire sow herd as formerly.

Silage feeding of sows was reported on. Grass silage was full-fed to sows supplemented with from 2 to 6 lb. of grain per sow per day. Sows receiving 2 lb. of grain per day were thinner when going into the farrowing crate. Even so, if fed properly after farrowing, they produced as much milk as sows receiving 6 lb. of grain per day before farrowing.

Two types of additive research projects on growing and finishing swine were reported upon. One type involved pigs fed individually in wire cages keeping individual feed records and average daily gain on each pig. This results in a great deal more statistical information. The second is to feed pigs on concrete, 4 or 5 pigs in each lot, and compare various treatments.

Using these two methods, Kentucky has experimented with many additives during the last three years, alone and in combinations. A recently compieted trial with copper sulfate gave results equivalent to the best antibiotics used, said Dr. Miller. Two pounds per ton of feed appeared to be the most effective level. This is fed from weaning time on to improve average daily gains and feed conversion. Three different trials using copper sulfate have given results in the upper third compared with all the rest of the additives when measured by average daily gain and feed conversion.

In response to a question as to whether copper oxide would work just as well as copper sulfate, Dr. Miller said he couldn't answer this as he had not seen as much work on copper oxide as on copper sulfate.

Work with a new antibiotic, Virginiamycin, has produced gains of 15% over a basal ration. That did not include any additives other than vitamins and minerals. In comparison to other antibiotics, chlortetracycline, oxytetracycline, zinc bacitracin and others, the improvement was about 7 or 8% in favor of the Virginiamycin, Dr. Miller said. The supply of Virginiamycin may create a problem. There is some question as to whether or not this can be produced economically.

The most effective level of Virginiamycin was 20 grams per ton.

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No on-farm chickens will ever enjoy their diets! The feed for most of these birds contains abnormal amounts of one of the trace elements. In this and other similar experiments the effects of several different levels of an element are compared. In one test we subjected a group of young birds to a feed containing 1,125 times as much iron as is normally added to a feed! These trials at the Lime Crest Research Laboratory tell us about the tolerance of chickens for the trace elements in Lime Crest Trace Mineral Pre-Mixes. They also tell us about their tolerance for the various compounds of these elements. Our iron experiment, for example, demonstrated conclusively that in a formula feed ferrous carbonate is preferable to either ferrous gluconate or ferrous sulphate. Careful research like this assures you that the compounds in Lime Crest Trace Mineral Pre-Mixes are not only effective sources of the mineral elements but completely safe at levels 100 times as great as the levels recommended for your finished feeds. You can also be sure of Lime Crest performance in your mill . . . because of a special process, exclusive with Lime Crest, our Trace Mineral Pre-Mixes are guaranteed to flow freely and never cake. It costs so little per ton to add the advantages of Lime Crest Pre-Mixes to your feeds, why not look into it today. Write for our new illustrated folder and price list.

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Here's how Dr. Salsbury's proven Health Management Products can help your feeds perform better through improved flock health

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Stimulates growth, improves feed efficiency

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Among swine, records indicate growing pigs average 16% heavier—*on 5% less feed*—with 3-Nitro in the ration . . . gives more uniform finish, with less disease problem.
These are benefits that help your feed perform even better.

best in today's poultry breeding and feeding

Coccidiosis Prevention

UNISTAT®

Stimulates growth, improves feed efficiency and prevents coccidiosis

Growth stimulation alone cannot prevent disease. Coccidiosis is a universal problem for your customers . . . mix Unistat in your feeds for chicks, pullets, and broilers. Unistat *prevents coccidiosis* under practical field conditions. Yet it allows immunity to develop in pullets . . . and it does even more. Birds given Unistat in their feed from the start show improved feed conversion, faster growth, better coloring. These extra benefits enable growers to put more pounds of the best broiler meat into the dressing plant—economically produced.

Encourage your customers to feed Unistat, the coccidiostat that also stimulates growth and improves feed efficiency. Unistat is a most important health management product for broilers and replacement birds.

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WORMAL is tops for tapes

Removes more species of tapeworms than any other wormer. . . also controls large roundworms and cecal worms

Wormal gives your feed a chance to do its best by removing nearly 100% of the major types of poultry worms. Only Wormal contains **dibutyltin dilaurate,** a drug that removes *3 times as many species of tapeworms as any other wormer.* Because worm-free birds are healthier, birds get more good out of their feed, feed efficiency goes up. This makes your feed look even better, just as it enables birds to grow or produce at their bred-in ability. So include Wormal in your worming mash formulations and help growers make more profit from their well-bred, well-fed birds.

STREPCILLIN F-25 *provides teamed antibiotics for better health and production*

Strepcillin F-25 gives your feeds added disease-fighting benefits—a product for times of stress! A product of antibiotics working together as a team, each supplementing the other. Can be mixed at different levels for proper health management in chickens, turkeys, swine.

BIOLOGICS . . . *to complete your health management program*

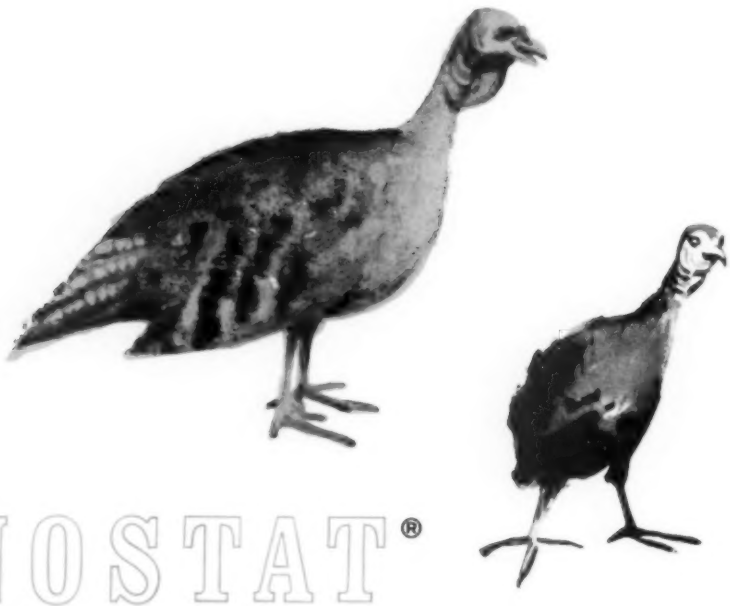
Dr. Salsbury's Laboratories pioneered in the development of low-cost, easy-to-use vaccines that take much of the disease risk out of poultry raising. These high quality vaccines have been used to protect billions of birds from the major virus diseases!

Recently, a new, instantly soluble vaccine was introduced—SoluVac. Already SoluVac has gained widespread popularity because of its superior efficacy.

Dr. Salsbury's Laboratories has developed complete vaccination programs that assure immunity by tailoring vaccine administration to individual flock needs. All this helps keep birds healthy. And healthy birds get more good out of their feed.

BALANCED HEALTH MANAGEMENT brings out the

Coccidiosis Prevention



TINOSTAT®

Protects turkeys against coccidiosis and hexamitiasis

More and more growers are starting poults on feed containing Dr. Salsbury's Tinostat. Tinostat contains 25% **dibutyltin dilaurate,** an exclusive Dr. Salsbury's compound. It *prevents mortality and loss of weight* because it has specific action against turkey coccidiosis and hexamitiasis. Tinostat is also economical to use, has no undesirable side effects, and is extremely palatable. With Tinostat in your starter rations, you are offering positive protection against two of the most troublesome turkey diseases—coccidiosis and hexamitiasis.

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HISTOSTAT®-50

Proven the best blackhead preventive

More and more turkeys are being grown and finished on feed containing Dr. Salsbury's Histostat-50. Histostat-50 consistently protects flocks against mortality and weight loss due to blackhead. It gives the type of disease prevention that assures strong, healthy birds—birds that get more good out of the feed because they're healthier.

For grower benefits that make new customers and keep the old, mix Dr. Salsbury's Histostat-50 in your turkey growing mash. It's the best blackhead preventive on the market today!

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Reports Feed Cost Difference Between States

BLACKSBURG, VA. — A Virginia poultry specialist says that "considerable differences seem to exist in egg production practices and costs between Virginia and the more rapidly expanding egg producing areas in other states." And, he says, one of the differences is feed costs, said to be considerably lower in other southern states.

Denver D. Bragg, poultry specialist at Virginia Polytechnic Institute, has taken a look at egg enterprises in Mississippi, Georgia and North Carolina. A recent VPI news release quotes him as saying that there are considerable differences in feed processing and delivery costs.

"In Mississippi and Georgia," Mr. Bragg reported, "feed processing and delivery costs range from $3.50 to $9 per ton above the ingredient cost—considerably less than the charge made for the same service in Virginia. On-the-farm or local feed mixing facilities, concentration of flocks in a relatively small area and larger enterprises are apparently some of the factors that help bring about the reduction in cost. Even there, it seems that at least $3 to $5 per ton can be saved by using locally prepared layer rations.

"According to the manager of a relatively small mill operated by a large feed company, his organization shifted to a local mix because of lower distribution and manufacturing costs and because he could immediately shift to medicated feed if necessary."

Generally, two types of egg production contracts are being used in the areas visited, Mr. Bragg said. One calls for a payment of 8 to 10¢ per bird per month for the use of a man's labor, building and equipment. The other calls for a payment of $35 to $45 per week, plus in many instances a house and utilities, for a man's labor. With the first contract, the birds are usually owned by an egg-grading plant or feed company which furnishes feed, medication, etc. With the second contract the owner of the birds also owns or rents the farm and pays a man a salary to care for the birds. Under the first contract one man and his wife may care for 6,000 to 10,000 birds, giving them an income of $600 to $1,000 a month, if they had no payment to make for housing or equipment. Most pullet contracts allow 1¢ per bird per week for use of the man's time, housing and equipment.

If a farmer wants to expand under the "so-much-per-bird-per-month" system, half of his gross payment goes to the lending agency to help pay off his loan, and the other half to him. The contracting agency often acts as a go-between with the bank and the contract growers. Loans are scheduled to be paid off in 3 to 5 years, and generally bankers regard poultry financing as a legitimate risk.

Mr. Bragg points out that poultrymen have had to be on their toes the last few years to stay in business. "We may not have to worry so much about being out of business if we get poultry controls, but efficiency will pay in any case," he said.

Central Soya Personnel Study Human Relations

MEMPHIS, TENN. — A 14-week human relations training program has been started for managerial personnel of Central Soya's McMillen feed division here.

James Tellman, plant manager, said, "This is a practical program for building an understanding of leadership by helping managerial personnel understand themselves and how their actions affect the performance of the men they supervise."

Dr. Milton C. Addington, psychological consultant to management, who formerly taught interpersonal relations for the University of Tennessee and industrial psychology for Memphis State University, is conducting the program.

To be included are lectures and discussions on such subjects as the needs of people as human beings; communications between managerial personnel and their workers, fellow supervisors and superiors, and motivation and incentives.

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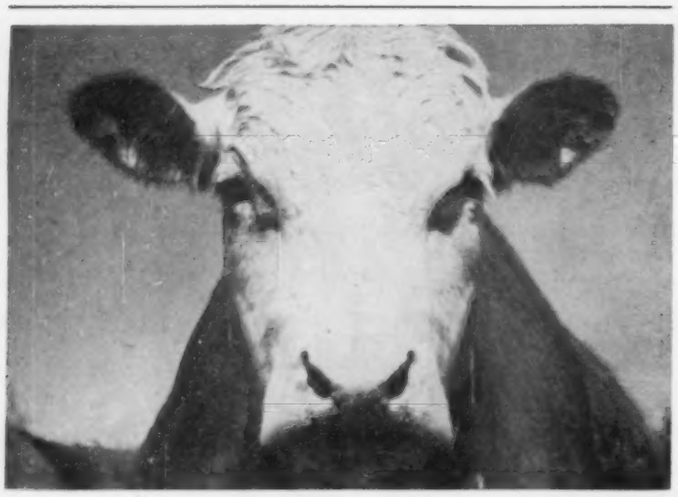

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Moisture Content of Feed Ingredients And Corresponding Critical Storage Temperatures

By Dr. L. R. Richardson and B. D. Webb
Texas A&M College

Webb, Bayliss and Richardson, 1961, have shown that interspace relative humidity is more reliable than moisture content in predicting whether a mixed feed is safe from spontaneous heating and the accompanying deterioration. It also is equal to or better than moisture content for predicting moisture conditions for safe storage of feed ingredients. In this study, interspace relative humidities were determined on several feed ingredients and mixed feeds with different moisture contents at 50, 70 and 90°F. No ingredients or mixed feed with a relative humidity of 72% or less heated in six weeks regardless of the storage temperature, provided that the humidity was measured at the same temperature as that of storage.

Humidity Curves

From the humidities at 50, 70 and 90°F. of an ingredient at different moisture contents, humidity-temperature curves can be drawn for each moisture content. Such curves for ground corn are given in Figure 1. From these curves, it is possible to obtain the temperature at which the ground corn with different moisture contents will have a relative humidity of 72%. This value has been designated as the critical storage temperature for an ingredient with a given moisture content. A curve showing the critical storage temperature for ground corn with various amounts of moisture is given in Figure 2.

The moisture contents and the corresponding critical storage temperatures for alfalfa leaf meal, steamed bone meal, corn gluten feed, ground yellow corn, cottonseed meal, ground sorghum grain, sorghum gluten meal and soybean oil meal are given in Table 1. The temperature values shown in Table 1 were obtained from curves similar to those in Figure 1.

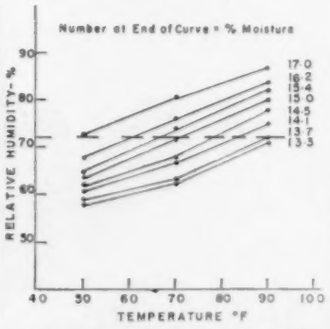

FIGURE 1 — Curves show relative humidities of ground corn containing different amounts of moisture at 50, 70 and 90°F.

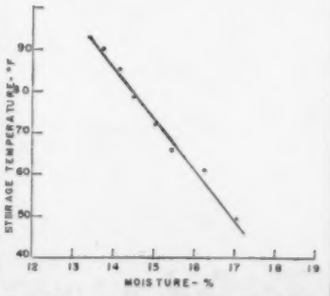

FIGURE 2—Curve shows the temperature at which ground corn containing different amounts of moisture has a relative humidity of 72%.

EDITOR'S NOTE: *The accompanying article is from a recent issue of the Texas Feed Service Report. The authors are: Dr. L. R. Richardson, professor, department of biochemistry and nutrition, Texas A&M College, and B. D. Webb, research assistant in the same department.*

Curves similar to that in Figure 2 can be drawn from the data in Table 1 to obtain the critical storage temperature for any moisture content.

Use with Ground Corn

An example with ground corn will illustrate how the data in Table 1 can be used under practical conditions. With a moisture content of 13.7%, the ground corn may or may not be safe when stored at 90°F., but would be safe when stored at lower temperatures. Likewise, with a moisture content of 15%, the ground corn may or may not be safe when stored at 72°F., but would be safe at lower

TABLE 1. Critical Storage Temperatures of Ingredients with Different Moisture Contents

Ingredient	Moisture %	Temperature °F.
Alfalfa leaf meal, dehydrated	13.0	90+
	14.6	83
	15.9	72
	17.0	66
	18.5	63
Bone meal, steamed	7.7	90+
	8.1	84
	8.4	78
	9.4	68
	9.8	60
	10.5	55
	11.2	50
	12.6	50—
Corn gluten feed	13.3	87
	14.2	78
	15.5	70
	17.5	48
Corn, ground yellow	13.3	90+
	13.7	90
	14.1	84
	14.5	79
	15.0	72
	15.4	66
	16.2	61
	17.0	50—
Cottonseed meal	12.2	90+
	12.5	87
	13.0	85
	13.4	82
	13.8	79
	14.2	74
	15.1	67
	16.0	54
	17.6	50+
Sorghum grain, grd.	13.8	90+
	14.1	89
	14.3	85
	14.6	79
	15.0	75
	15.3	72
	16.0	66
	17.3	50—
Sorghum gluten meal	11.0	90+
	11.5	90
	12.0	86
	12.5	80
	13.2	76
	13.5	71
	14.5	60
	14.9	54
	16.1	50—
Soybean oil meal	13.0	90+
	13.6	90+
	14.0	86
	14.4	80
	14.9	77
	15.3	74
	16.8	64
	17.7	61
	18.6	57
	20.6	50—

temperatures. The same ground corn containing 17% moisture would have to be stored at less than 50°F. to be safe from the growth of molds and the accompanying deterioration.

To use relative humidity for predicting moisture conditions safe for the storage of feed mixtures, the relative humidity has to be determined at the temperature at which the feed is stored. The data for one feed mixture will not necessarily be applicable to another mixture.

ACKNOWLEDGEMENT

This experiment was supported in part by a grant-in-aid from the Corn Products Co., New York, N.Y., through the courtesy of Elmer E. Daggy.

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130 Exhibitors Have Space at National Turkey Exposition

DALLAS, TEXAS—Almost 130 exhibitors at previous National Turkey Federation conventions have now been allocated exhibit space for the 1962 NTF Dallas Turkey Industry Exposition Jan. 9-11.

The remaining space now is available to prospective new exhibitors. Interested firms should contact the National Turkey Federation, Box 69, Mount Morris, Ill.

The following firms have reserved exhibit space:

Abbott Laboratories, Acme Tent & Awning Co., Allied Mills, Inc., American Cyanamid Co., Amerine Turkey Breeding Farms, Inc., Anderson Box Co., Arnett Turkey Farms, Ashley Machine Co.

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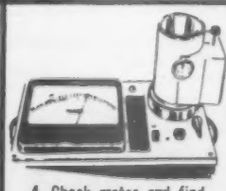

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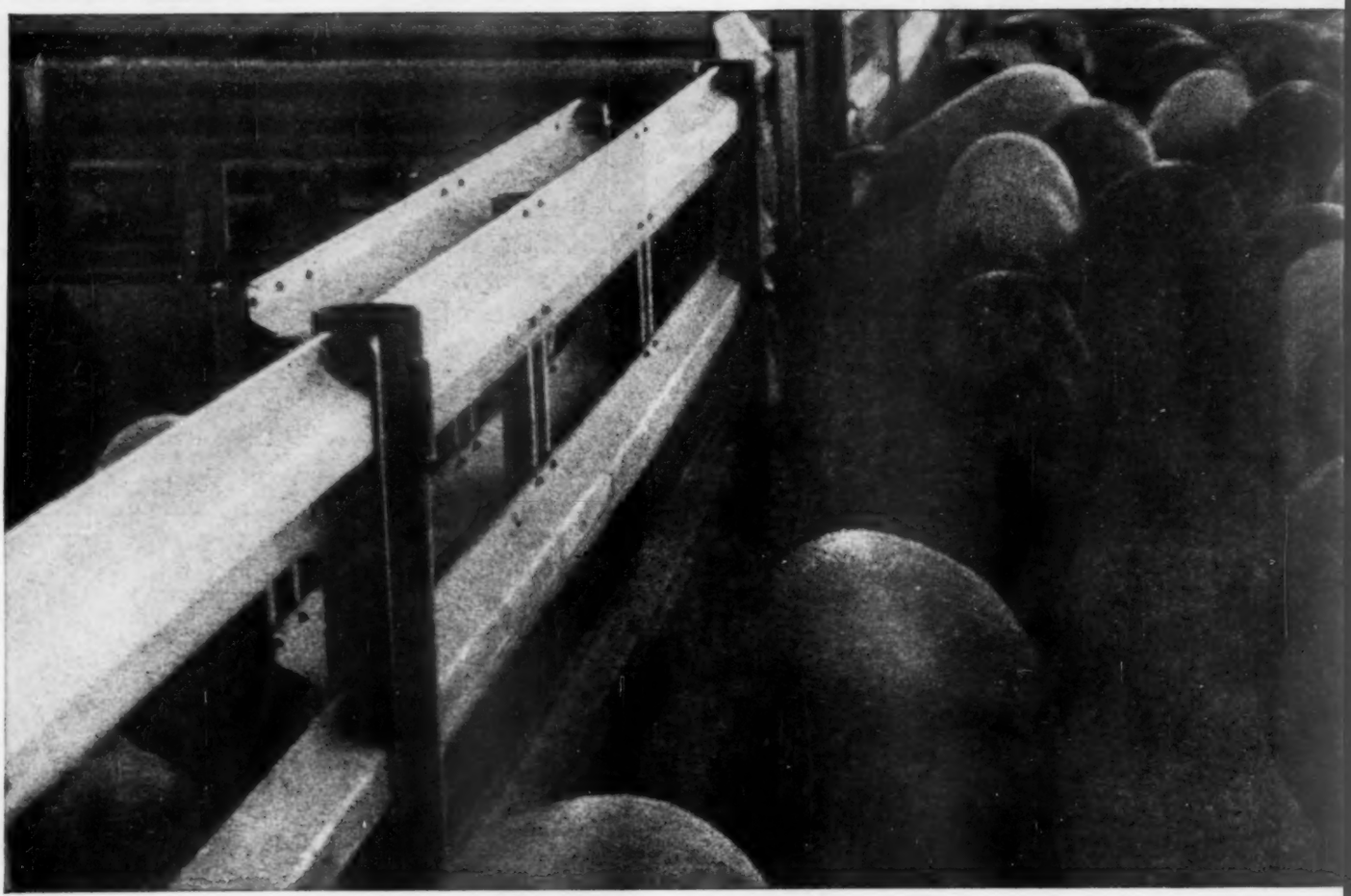

No matter what antibiotic switch to new

Hogs fed rations with Taomyxin averaged:

- **8 days less feeding time to market**
- **at $34.20 less cost per 100 hogs over other antibiotics tested**

Just by changing the antibiotic in your swine feeds to Taomyxin, you can help your customers save money consistently . . . more reason than ever for them to switch to your program.

Taomyxin has proved it can produce more gains at less cost than any other antibiotic used alone or any combination of antibiotics tested. Test averages show 8 days less feeding time and $34.20 less cost per 100 hogs.

Here's how much better Taomyxin proved out:

	More Gains from Taomyxin by:	Better Feed Efficiency from Taomyxin by:
Zinc Bacitracin	13.4%	7.3%
Bacitracin plus Penicillin	12.8%	5.7%
Penicillin plus Streptomycin	3.0%	3.4%
Penicillin plus Streptomycin plus Bacitracin	6.4%	1.6%
Chlortetracycline plus Penicillin plus Bacitracin	6.5%	1.2%

Testing by Pfizer, the feed industry, colleges, and on many hog farms has shown the recommended level of Taomyxin to be 2 grams of oleandomycin to 8 grams of oxytetracycline wherever increased performance is of prime importance.

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Call your Pfizer representative for complete details on supplementing your rations with new Taomyxin.

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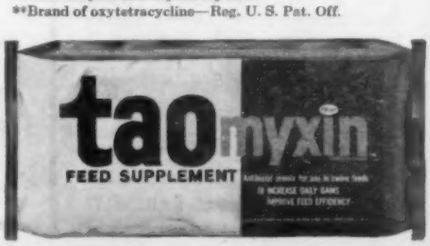


you're using, it will pay to Taomyxin™*...

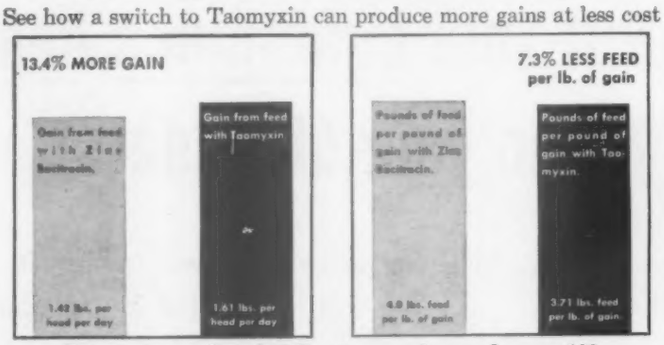
The following summary shows the average of test results comparing Taomyxin with antibiotics used alone or in combination:

	Control†	Taomyxin
GROWTH		
Number of trials	12	12
Number of pigs	694	669
Av. daily gain—lbs.	1.38	1.48
Increase over controls—%	—	7.25%
FEED EFFICIENCY		
Number of trials	12	12
Number of pigs	694	669
Lb. feed/lb. gain	3.70	3.62
Improvement	—	2.20%
ECONOMICS††		
Cost per cwt. gain	$11.951	$11.761
Savings per cwt. gain	—	.190
Savings per pig (180 lbs. gain)	—	.342
Savings per 100 pigs	—	$34.20

†Other antibiotics and combinations of antibiotics.
††Cost of antibiotic supplements included.

Using Zinc Bacitracin?

See how a switch to Taomyxin can produce more gains at less cost


13.4% MORE GAIN
Gain from feed with Zinc Bacitracin.
1.42 lbs. per head per day
Gain from feed with Taomyxin
1.61 lbs. per head per day
7.3% LESS FEED per lb. of gain
Pounds of feed per pound of gain with Zinc Bacitracin.
4.0 lbs. feed per lb. of gain
Pounds of feed per pound of gain with Taomyxin.
3.71 lbs. feed per lb. of gain.

Taomyxin produced 19 lbs. more gain per day per 100 pigs...on 29 lbs. less feed per 100 lbs. gain.

For this trial, a regular, high-quality swine feed was used. Taomyxin was added to part of the feed, zinc bacitracin to the rest ... and the performance of the different rations was compared.

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Kentucky Swine Research Reports Follow Pig from Weaning to Packing House

LEXINGTON, KY. — Swine research reported at the annual Kentucky Livestock Field Day ranged all the way from antibiotics as additives for early weaning pig rations to correlation of various swine carcass cuts and measurements.

Other topics of the swine research following the pig from weaning to the packing house were: Feed Additives for Growing-Finishing Pig Rations; Antibiotics and Nitrofurans as Additives for Growing Pig Rations; Virginiamycin, a New Antibiotic for Growing Swine; Virginiamycin Fed to Growing-Finishing Pigs on Concrete and Pasture, and Relative Cut-Out Percentages and Values of Light and Heavier Weight Hogs.

ANTIBIOTICS AS ADDITIVES IN EARLY WEANING PIG RATIONS — In this test, ration treatments for two replicate lots of five pigs each were: (1) basal, (2) basal plus 25 gm. Virginiamycin per ton, (3) basal plus 50 gm. Virginiamycin per ton, (4) basal plus 100 gm. Virginiamycin per ton, and (5) basal plus 100 gm. Aureomycin per ton.

The average daily gain and feed conversion figures for each of the rations follow: (1) 0.73 lb. daily gain, 2.25 lb. feed per pound of gain; (2) 0.74, 2.20; (3) 0.85, 1.90; (4) 0.91, 1.90, and (5) 1.61, 2.02.

H. W. Miller, Dr. C. E. Barnhart and T. W. Cathey say, "All ration treatments were effective in increasing the rate of average daily gain over the basal ration treatment. Ration 4 increased average daily gain by 25.5% and improved feed efficiency by 15.9% over ration 1. In addition, ration 4 treatment pigs had a higher daily feed consumption than all other ration treatments. Correlation between pig starting weights and resulting average daily gains was found to be significant as tested by analysis of covariance."

ANTIBIOTICS AND NITROFURANS AS ADDITIVES FOR GROWING PIG RATIONS—H. W. Miller, Dr. C. E. Barnhart and T. W. Cathey say additives used per ton of ration for each lot were as follows: (1) basal, (2) basal plus 40 gm. Aureomycin per ton, (3) basal plus 40 gm. Terramycin per ton, (4) basal plus 40 gm. zinc bacitracin per ton, (5) basal plus 100 gm. HCO 441 per ton, (6) basal plus 100 gm. HCO 441 and 40 gm. Aureomycin per ton, (7) basal plus 100 gm. HCO 441 and 40 gm. Terramycin per ton, (8) basal plus 100 gm. HCO 441 and 40 gm. zinc bacitracin per ton, and (9) basal plus 100 gm. HCO 441 and 40 gm. Virginiamycin per ton. The additives are antibiotics with the exception of HCO 441 which is a nitrofuran.

The average daily gain and feed conversion figures for each of the rations follow: (1) 0.98 lb. daily gain, 2.57 lb. feed per pound of gain; (2) 1.12, 2.72; (3) 1.00, 2.66; (4) 1.17, 2.52; (5) 1.08, 2.69; (6) 1.22, 2.51; (7) 1.13, 2.61; (8) 1.22, 2.48, and (9) 1.20, 2.43.

The three research workers said, "Analysis of variance test showed a significant difference among ration treatments at the 10% level and was approaching significance at the 5% level."

VIRGINIAMYCIN, A NEW ANTIBIOTIC FOR GROWING SWINE—This four experiment study on the new antibiotic Virginiamycin was conducted by Dr. C. E. Barnhart, J. C. Robertson and Howard Miller.

In the first experiment, rations used were: (1) basal, (2) basal plus 40 gm. chlortetracycline, (3) basal plus 20 gm. Virginiamycin per ton and (4) basal plus 40 gm. Virginiamycin per ton.

The average daily gain and the feed conversion figure for each of the rations follow: (1) 1.16 lb. daily gain, 3.18 lb. of feed for each pound of gain; (2) 1.26, 3.12; (3) 1.32, 2.92, and (4) 1.48, 2.87.

The research team said, "The lot of pigs fed 40 gm. Virginiamycin per ton gained 26.64% faster than the basal pigs and 16.66% faster than pigs fed 40 gm. of chlortetracycline per ton. Difference in gains between pigs receiving 40 gm. Virginiamycin and pigs fed the basal ration was significant at the 1% level. Difference in gains between pigs receiving 40 gm. Virginiamycin and pigs receiving 40 gm. chlortetracycline was significant at the 5% level."

In the second experiment, the same rations were used. Results are: Period 1—(1) 1.22, 3.41; (2) 1.29, 3.21; (3) 1.47, 2.78, and (4) 1.51, 2.69; period 2—(1) 1.67, 4.42; (2) 1.78, 4.18; (3) 1.73, 4.26, and (4) 1.82, 4.00; and periods 1 and 2—(1) 1.44, 3.96; (2) 1.51, 3.71; (3) 1.60, 3.58, and (4) 1.67, 3.45.

The researchers said, "The 20 and 40 gm. per ton of Virginiamycin increased gain 19.72% and 24.14%, respectively, over the basal ration for the first period of the experiment. These differences were statistically significant at the 5% level. The 40 gm. level of Virginiamycin improved rate of gain 17% over the chlortetracycline treatment during the first period. Also, the 20 and 40 gm. levels of Virginiamycin improved feed efficiency by 21.0% and 18.8%, respectively, over the basal. The 20 and 40 gm. levels of Virginiamycin improved feed efficiency by 11.29% and 13.34%, respectively, over the 40 gm. level of chlortetracycline.

"There were no statistically significant differences in rate of gain between the different treatments for the period of 110 lb. to 200 lb. live weight of pigs. However, for the entire feeding period, pigs fed the 40 gm. level of Virginiamycin gain sig-

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nificantly faster than the basal pigs ($P<0.01$) and the 40 gm. level of chlortetracycline pigs ($P<0.05$). This was an increase in gains of 15.97% over the basal and 11.33% over chlortetracycline. The 40 gm. of Virginiamycin also improved feed efficiency 14.82% over the basal and 7.84% over the chlortetracycline. The 20 gm. level of Virginiamycin increased gains 11.11% over the basal, thus approaching significance, and 6.66% over the 40 gm. level of chlortetracycline."

The third experiment involved individually fed pigs fed the following rations: (1) Basal, (2) basal plus 10 gm. Virginiamycin per ton, (3) basal plus 20 gm. Virginiamycin per ton, (4) basal plus 40 gm. Virginiamycin per ton, (5) basal plus 80 gm. Virginiamycin per ton, (6) basal plus 10 gm. chlortetracycline per ton, and (7) basal plus 20 gm. chlortetracycline per ton.

The average daily gain and feed conversion figures for the rations follow: (1) 1.14 lb. daily gain, 2.63 lb. of feed per pound of gain; (2) 1.25, 2.46; (3) 1.14, 2.47; (4) 1.31, 2.43; (5) 1.29, 2.52; (6) 1.15, 2.56, and (7) 1.22, 2.43.

In summary, the research team said, "There were no significant differences in rate of gain or feed efficiency between the various treatments used in this experiment. However, Virginiamycin did increase gains over the basal when fed at all levels except the 20 gm. level. Virginiamycin fed at all levels improved feed efficiency over the basal ration. The 40 gm. and 80 gm. levels of Virginiamycin increased gains 14.9% and 13.2%, respectively, over the basal ration. This was of interest since little or no improvement in rate of gain has been noted at this experiment station from feeding antibiotics to pigs under this kind of environment."

In experiment 4, lots of five pigs were self-fed the following rations: (1) basal, (2) basal plus 10 gm. Virginiamycin per ton, (3) basal plus 20 gm. Virginiamycin per ton, (4) basal plus 40 gm. Virginiamycin per ton, (5) basal plus 80 gm. Virginiamycin per ton, (6) basal plus 10 gm. chlortetracycline per ton, and (7) basal plus 20 gm. chlortetracycline per ton.

Results were as follows: (1) 1.24 lb. daily gain, 3.06 lb. of feed per pound of gain; (2) 1.21, 2.90; (3) 1.37, 2.72; (4) 1.30, 2.87; (5) 1.39, 2.73; (6) 1.28, 3.05, and (7) 1.22, 3.13.

In summary, the research team said, "Again Virginiamycin improved rate of gain and feed efficiency over the basal ration although differences in rate of gain were not of statistical significance. When compared with chlortetracycline-fed pigs, Virginiamycin-fed pigs gained faster except at the 10 gm. level and more efficiently."

VIRGINIAMYCIN FED TO GROWING-FINISHING PIGS FED ON CONCRETE AND PASTURE—Dr. C. E. Barnhart, J. R. Overfield and S. J. Lowry report that they used the following ration treatments in this experiment: (1) Basal, (2) basal plus 40 gm. chlortetracycline per ton, (3) basal plus 20 gm. Virginiamycin per ton, and (4) basal plus 40 gm. Virginiamycin per ton.

The four ration treatments were fed to pigs confined to a concrete feeding floor and grazing a legume pasture.

The effects of Virginiamycin and chlortetracycline on the rate of gain and feed conversion of growing-finishing pigs are: Period 1, pasture—(1) 1.61 lb. daily gain, 3.20 feed per pound of gain; (2) 1.61, 2.609; (3) 1.49, 2.56; (4) 1.71, 2.50; period 2, pasture—(1) 1.69, 3.19; (2) 1.80, 3.38; (3) 1.74, 3.54; (4) 1.83, 3.44; periods 1 and 2, pasture—(1) 1.66, 3.19; (2) 1.72, 3.08; (3) 1.63, 3.20; (4) 1.78, 3.05; period 1, concrete—(1) 1.78, 2.84; (2) 1.79, 2.82; (3) 1.84, 2.72; (4) 1.87, 1.74; period 2, concrete—(1) 2.01, 3.59; (2) 2.05, 3.49; (3) 1.90, 3.82; (4) 2.11, 3.53, and periods 1 and 2, concrete—(1) 1.89, 3.24; (2) 1.92, 3.24; (3) 1.82, 3.26, and (4) 1.88, 3.15.

The researchers from the University of Kentucky said that little difference was noted in the ration treatment groups. "For the most part, Virginiamycin-fed pigs showed some improvement in gains and feed efficiency," the men said. "Pigs fed 40 gm. per ton of Virginiamycin on concrete gained significantly faster than controls during the first period of the experiment."

It was noted that the pigs were fed to a lot average of 200 lb. liveweight and that when pigs reached 75 lb. the protein level of the ration was reduced to 14% and further reduced to 12% at 125 lb.

FEED ADDITIVES FOR GROWING-FINISHING PIG RATIONS—Ration treatments for two replicate

NEW PFIZER LAB—Progress continues on the third new poultry diagnostic laboratory of Chas. Pfizer & Co., Inc., scheduled for completion and opening at Springdale, Ark., in November. The facility, pictured above, to be headed by a trained and experienced poultry pathologist, and operated by the Pfizer agricultural division, is being built just north of Springdale on Highway 71. When the new facility opens, free diagnostic services will be provided to all Arkansas broiler and egg producers.

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STAPHYLOCOCCAL SYNOVITIS A killer of growing turkeys in many areas, "Staph" is also known among turkey growers as Weak Legs, Hock Disease, Staphylococcal Arthritis and Old Joe. It is most easily recognized by localized infection and swelling in the tendon sheaths of the turkey hock and wing joints. It also manifests itself in poor fleshing and frequently results in death.

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OPEN NEW FACILITY—The modern new grain inspection department of the Memphis (Tenn.) Board of Trade was officially opened recently when Henry Loeb, mayor of Memphis, snipped the ribbon to the doors. Taking part in the opening are (left to right): T. A. Newton, president of the Memphis Grain & Hay Assn.; Mayor Loeb; W. R. Flippin, chairman of the Board of Trade building committee; Giles A. Coors, president of the Board of Trade, and John T. Butler, chief grain inspector.

lots of five pigs each in this experiment were: (1) basal, (2) basal plus 50 gm. Aureomycin per ton, (3) basal plus 50 gm. Aureomycin and 1,000 gm. sodium acrolate per ton, (4) basal plus 20 gm. Pro-Strep per ton, (5) basal plus 5 gm. Virginiamycin per ton, (6) basal plus 10 gm. Virginiamycin per ton, (7) basal plus 20 gm. Virginiamycin per ton, and (8) basal plus 40 gm. Virginiamycin per ton.

The average daily gain and feed conversion figures for each of the rations follow: (1) 1.486 lb. daily gain, 2.96 lb. of feed per pound of gain; (2) 1.550, 2.92; (3) 1.594, 2.87; (4) 1.521, 2.91; (5) 1.588, 2.72; (6) 1.590, 2.74; (7) 1.677, 2.72, and (8) 1.628, 2.80.

According to H. W. Miller, Dr. C. E. Barnhart and T. W. Cathey all ration treatments effectively increased the rate of average daily gain over the basal ration treatment. They pointed out, "As tested by the use of Duncan's Multiple Range Test, treatment 7 pigs had a significantly higher average daily gain than treatment 1 pigs. All pigs, regardless of ration treatment, had particularly fast and economical gains in this trial."

"How about putting in a little ketchup?"

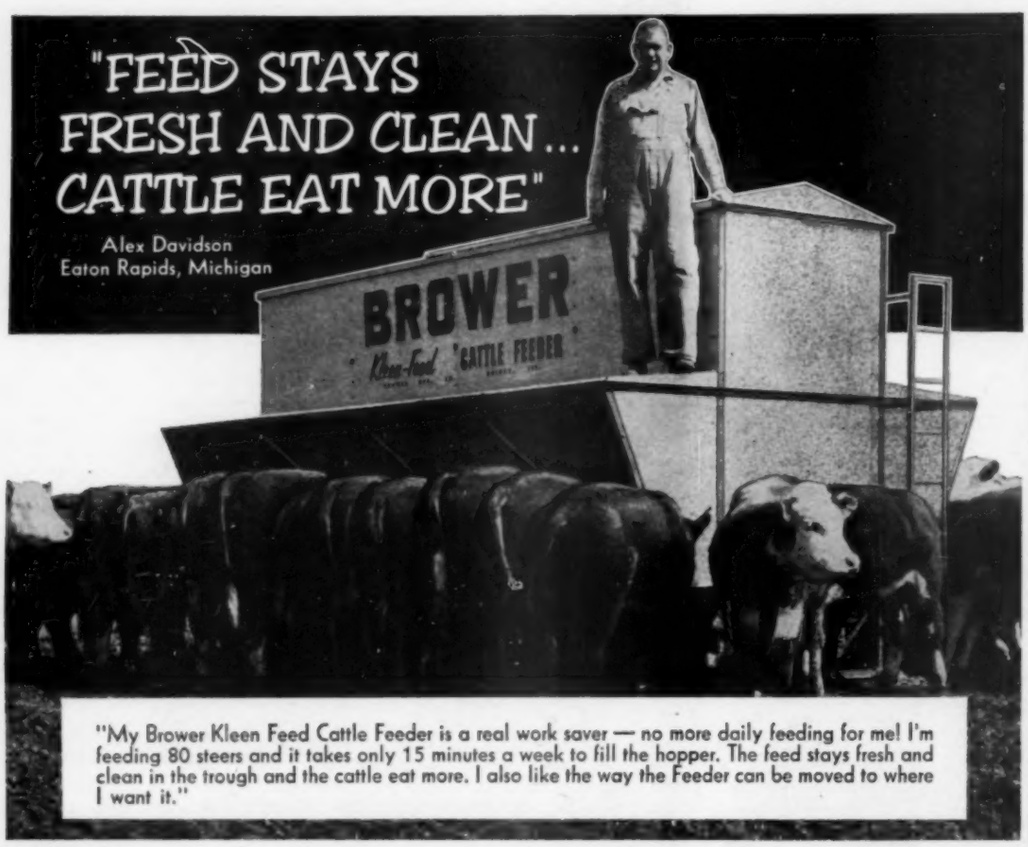
RELATIVE CUT-OFF PERCENTAGES AND VALUES OF LIGHT AND HEAVIER WEIGHT HOGS—Results of this study indicate that carcasses from hogs weighing 160 lb. are quite comparable to carcasses from 220 lb. hogs as to cut-off percentages and total carcass value, say Dr. W. Y. Varney, Dr. J. D. Kemp, C. D. Phillips and Dr. C. E. Barnhart.

It is also shown, say the research men, that the smaller hogs yielded a smaller percentage of fat. However, they point out one major question that has yet to be answered: Do smaller fat yield and demand for smaller cuts off-set higher processing costs of lighter-weight hogs?

The research team also said it should be remembered that all hogs used in this study were of the meat type.

CORRELATION OF THE VARIOUS SWINE CARCASS CUTS AND MEASUREMENTS—Data used in this study were collected from pigs slaughtered over an eight-year period. These pigs were purebred Hampshires which had been on a production testing program. A total of 395 head were involved, according to M. D. Whiteker, Dr. C. E. Barnhart and Dr. J. D. Kemp.

They say their study showed percent of ham expressed as a percent of carcass weight was more highly correlated with percent of lean cuts than other carcass data. Therefore, they point out, it was the best single variable in predicting total carcass leanness. Ham fat thickness seems to be a better measure of carcass fat than does backfat measurements, the three Kentucky researchers commented.



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SELLIN' SAM By Jim Zilverberg

"I wonder if I might have a word with you, in private!"

Tells Need for Better Additives in Future

COLLEGE STATION, TEXAS—Students attending the fifth annual Texas Feed Microscopy Short Course at Texas A&M College here were told that as higher production and better efficiency are required of livestock and poultry, there will also be a need for better additives in order to improve diets of livestock and poultry.

Making the statement was Dr. R. E. Davies, professor of nutrition at Texas A&M. Dr. Davies, who spoke at the banquet climaxing the six day event, emphasized the important role that feed additives play in the increasingly complex field of feed formulation and the nutrition and health of livestock and poultry.

Other talks given at the event, which drew students representing regulatory services, commercial laboratories and manufacturers, included one by Reed McDonald, director of the Texas Feed Control Service, entitled "Problems of the Feed Control Service." Mr. McDonald stressed the fact that microscopy is a valuable aid in the enforcement of certain provisions of the Texas feed laws.

"Feed Microscopy" was the subject discussed by G. M. Barnhart, microscopist and chief chemist, Missouri Department of Agriculture. He told of the problems feed microscopists are now having since present day feeds are becoming more and more complex.

Other speakers and their topics included Dean L. Mingus, microscopist and chief chemist, Burrus Feed Mills, Ft. Worth, "The Use of Feed Microscopy in an Industrial Feed Research Laboratory"; W. E. McCasland, assistant microscopist, State Chemist Department, Texas A&M, "Following a Feed Sample Through the Microscopic Laboratory," and Dr. G. D. Miller, Kansas State University, "Dispersion Staining Technique."

Mr. Mingus stressed the value of microscopy as a valuable aid in quality control of various feed ingredients and formulated feeds. Mr. McCasland related how a sample was taken in the field by feed inspectors; how the sample was prepared prior to the chemical analysis and how the sample was analyzed microscopically. Mr. Miller told the group how plant tissue can be identified by placing the tissue in solutions of different refractive indices and observing the color of the light as it passes through the ingredient under the microscope.

The students also attended a series of workshops where they studied and practiced methods of qualitative and quantitative analysis.

The short course, which was under the direction of E. E. Brown, State Chemist Department, Texas A&M College, is sponsored by the School of Agriculture and the Texas A&M Agricultural Experiment Station to teach the fundamentals and techniques of feed microscopy.

TEXAS FEED MICROSCOPY SHORT COURSE—Students who attended the recent Texas Feed Microscopy Short Course at Texas A&M College are pictured here.

Seated, left to right: James R. Scott, Texas Feed Control Service, Ft. Worth; G. M. Barnhart, Missouri Department of Agriculture, Jefferson City; E. E. Brown, State Chemist Department, College Station, Texas; James D. Bray, Ralston Purina Co., Los Angeles; William H. Simmons, Woodson-Tenent Laboratories, Memphis, Tenn.

Standing, left to right: Maurice L. Striegler, Texas Rendering Co., Bastrop; Earle R. Heinecke, Hales & Hunter Co., Chicago; Louis G. Sills, Texas Feed Control Service, Lubbock; Lloyd Joyce, Brazos County Prod. Co-op., Bryan, Texas; William H. Estill, Swift & Co., Ft. Worth, Texas; William E. McCasland, State Chemist Department, College Station, Texas; Jim M. Ridlehuber, Paymaster Feeds & Oil Mills, Abilene, Texas; James H. Gibson, The Quaker Oats Co., Shiremanstown, Pa.; Dean L. Mingus, Burrus Feed Mills, Ft. Worth; Robert M. Mitsuyoshi, Hawaii Department of Agriculture, Honolulu, Hawaii; J. F. Fudge, State Chemist Department, College Station, Texas, and Gerald D. Miller, Kansas State University, Manhattan.

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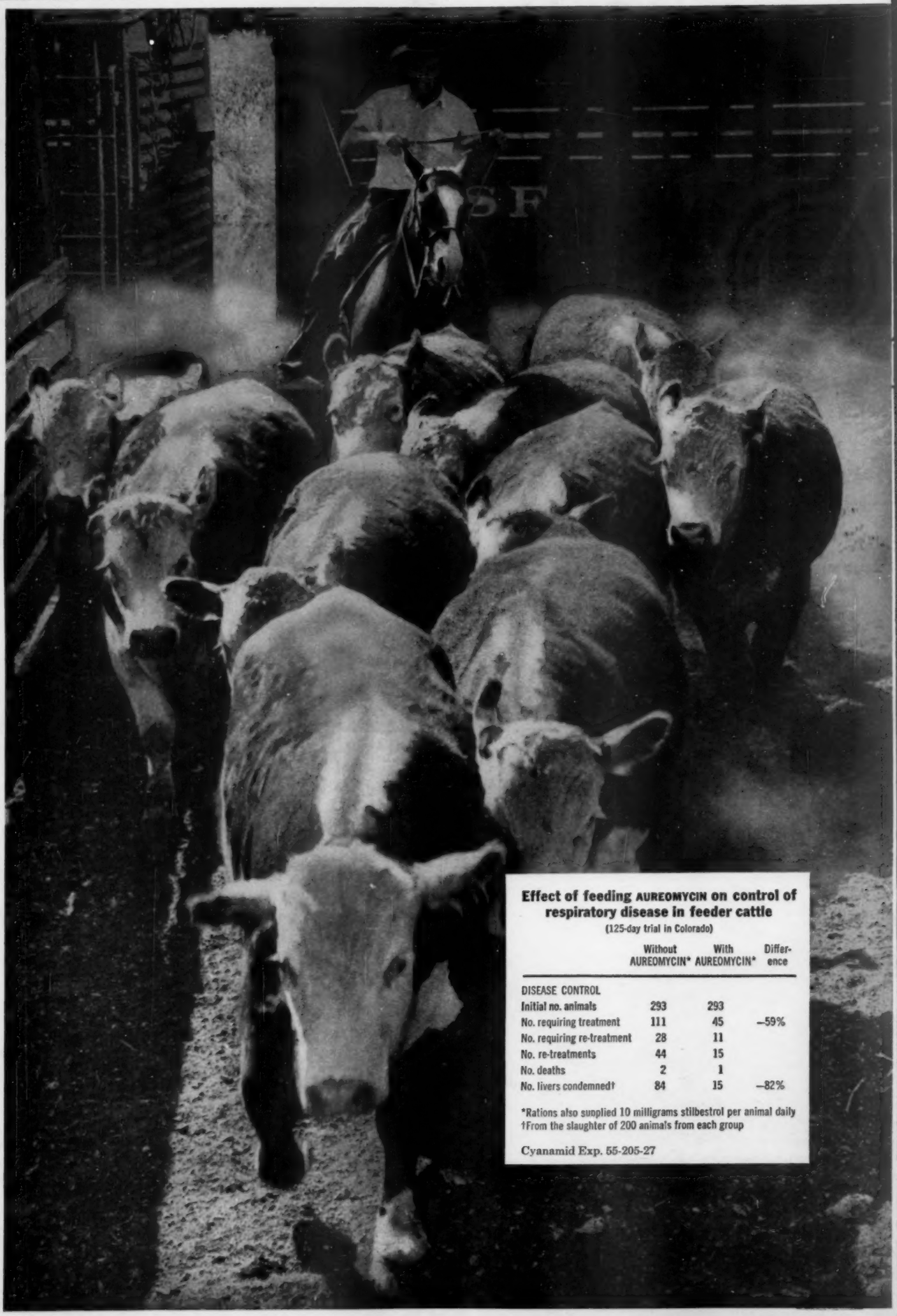

Effect of feeding AUREOMYCIN on control of respiratory disease in feeder cattle

(125-day trial in Colorado)

	Without AUREOMYCIN*	With AUREOMYCIN*	Difference
DISEASE CONTROL			
Initial no. animals	293	293	
No. requiring treatment	111	45	–59%
No. requiring re-treatment	28	11	
No. re-treatments	44	15	
No. deaths	2	1	
No. livers condemned†	84	15	–82%

*Rations also supplied 10 milligrams stilbestrol per animal daily
†From the slaughter of 200 animals from each group

Cyanamid Exp. 55-205-27

HOW TO CUT LOSSES FROM SHIPPING FEVER WITH AUREOMYCIN IN STRESS FEEDS

When you provide formula feeds containing high levels of Aureomycin, you're supplying your cattle feeders with today's most effective way to prevent setbacks from stress of shipping, unloading, weather changes

Stress feeding with high levels of AUREOMYCIN® for all newly-arrived cattle — that's the protective, money-making measure more and more farm feeders and commercial feedlot operators are taking.

As a result, many feed manufacturers formulating these stress feeds are discovering a new and profitable source of income.

First few weeks critical period

Those first two or three weeks following the arrival of cattle are critical. Shipping leads to stress. Unloading and sorting add new stress. Changes in surroundings or in weather — new feeds and feeding methods — add still more stress.

Stress often brings on shipping fever, bacterial diarrhea, foot rot, secondary bacterial infections, subclinical or invisible diseases.

Stop losses for your customers

Stress feeds with AUREOMYCIN help minimize losses from these diseases. Provide your customers with feeds that will give 350 milligrams of AUREOMYCIN per head per day — *to be fed until the critical period is past.* No antibiotic, chemobiotic, drug or hormone equals AUREOMYCIN in its activity against disease. Cattle getting stress levels of AUREOMYCIN *every* day come through the critical period strong and vigorous — go on full feed quickly. After the critical period, cattle can be continued all the way to market on feeds that provide 70 milligrams of AUREOMYCIN per head per day. This will keep them healthy and making economical gains.

Aureomycin prevents shipping fever

In the table shown on the opposite page, you can see the effectiveness of AUREOMYCIN in controlling respiratory diseases in cattle. In this experiment AUREOMYCIN was fed at the rate of 350 milligrams per head daily for 7 days, followed by feeding 70 milligrams per head for the remainder of the experiment. Note the high reduction (59%) in the number requiring treatment in the group fed AUREOMYCIN. This lot produced over 7,000 extra pounds of beef!

Recommend stress feeding

If you are not now making a stress feed containing high levels of AUREOMYCIN for feeder cattle, plan to do so. There's extra profit in such feeds for your feeders — and extra sales volume for you through increased customer satisfaction. Complete details on stress feeds containing AUREOMYCIN are given in a new booklet, "How to Build Bigger Beef Profits." This booklet is for distribution to your customers. For your copies get in touch with your Cyanamid representative or write direct to American Cyanamid Company, Agricultural Division, Princeton, N. J. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

Value of AUREOMYCIN in the ration of fattening cattle
(86-day trial in Nebraska)

	Without AUREOMYCIN*	With AUREOMYCIN*	Benefits from AUREOMYCIN
Number of cattle	205	208	
Average initial weight (lb.)	846	859	
Average final weight (lb.)	1163	1195	
Average gain per steer (lb.)	317	336	19 lb. extra
Average daily gain (lb.)	3.66	3.88	0.22 lb. more
Feed per cwt. gain (lb.)	760	690	9.2% less feed
Cost per cwt. gain (feed, labor, etc.)	$19.18	$18.27	$0.91 less cost
Extra return per head	—	—	$4.26

*Rations also supplied 10 milligrams stilbestrol per head daily

Cyanamid Exp. 56-200D-7

Shown above are the results of an experiment with AUREOMYCIN in the ration of fattening cattle. In this trial, AUREOMYCIN was fed to one group of cattle at the rate of 350 milligrams per head per day for the first 30 days followed by 70 milligrams per head per day for the remainder of the trial. Note these significant advantages with AUREOMYCIN: (1) increased average daily gain by 0.22 pound (19 pounds in 86 days); (2) improved feed conversion by 9.2%; (3) reduced feed cost 91¢ per 100 pounds of gain; (4) gave an extra return of $4.26 per head. In addition, AUREOMYCIN reduced the incidence of shipping fever, pneumonia and rhinotracheitis. Cattle fed AUREOMYCIN were more uniform, had better bloom.

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Factors Influencing Beef Carcass Composition and Quality

● Level of Protein ● Energy-Concentrate to Roughage Ratio ● Type of Feed
● Physical Character of Feed ● Phosphorus ● Hormones ● Antibiotics

By Dr. W. M. Beeson
Purdue University

The experimental data available on specific nutrients that will influence the chemical composition and quality of beef are very limited and often inconclusive. It is well known that energy intake above maintenance and growth requirements of cattle has a marked influence on the degree of fatness.

However, a ruminant animal is complex in nature and factors influencing biosynthesis in the rumen and the type of fatty acids produced may have a decided effect on the ratio of lean to fat and the distribution in the muscle fibers. Some of the more obvious factors which influence carcass composition and quality are: (1) level of protein, (2) energy-concentrate to roughage ratio, (3) type of feed, (4) physical character of feed, (5) phosphorus, (6) hormones and (7) antibiotics. Any nutritional deficiency will tend to slow up the growth and fattening process and, thus, will alter the chemical composition and quality of beef at a given age.

LEVEL OF PROTEIN—Adequate protein is essential for the proper development of muscle tissue and vital organs in the bovine animal. Thompson et al. (1961) showed that a ration containing 7.5% digestible protein produced beef superior in dressing percent, marbling score, carcass grade and loin eye area as compared to steers full-fed on a ration containing 6.5% digestible protein. Research workers at California (Simone et al., 1961), compared the meat from steers that had been subjected to a protein deficiency during the period when growth is ordinarily rapid with steers fed adequate protein. After these steers were finished, there was no difference in meat tenderness, juiciness or flavor between the two groups. Beef from the stressed animals (protein deficient) was significantly lighter and not so red as the controls (adequate protein). These data confirm previous studies showing rather clearly that retarded growth during the growing period of a steer or heifer has no detrimental effect on final carcass quality.

According to several studies, there is no indication that the type of natural protein—cottonseed, linseed or soybean meal—has any effect on carcass quality. When urea furnishes no more than one-third of the daily protein requirement, carcass grade is not affected. However, replacing all of the supplementary protein with urea decreased the carcass grade and marbling score (Pope et al., 1959). According to research by Richardson et al., (1960), a liquid molasses-urea supplement with or without alcohol caused no significant improvement in shrink to market, dressing percent, carcass grade, covering of fat, degree of marbling or size of rib eye as compared to heifers fed soybean oil meal. For maximum beef quality, the daily protein requirements should be met; but there is no evidence to indicate that excessive protein beyond the requirement is of any value.

ENERGY-CONCENTRATE TO ROUGHAGE RATIO—It is well known that rations made up with roughage with a limited amount of concentrate will produce satisfactory growth and muscle development in cattle, but fat deposition will be lacking. The proper ratio of concentrate to roughage to produce the desired finish at a minimum cost is an important consideration in fattening cattle. Webb et al., (1959), conducted a series of experiments to test complete pelleted rations containing concentrate to roughage ratios of 0:100, 15:85, 30:70, 60:40 and 80:20. The two low concentrate-roughage ratios, 0:100 and 15:85, did not produce acceptable carcass quality in calves, yearlings or two-year-old steers even through the daily gains were generally satisfactory. There was very little difference in the carcass grade or dressing percentage of cattle fed 60:40 and 80:20 concentrate to roughage ratios. In fact, less total digestible nutrients were required per pound of gain with the 60:40 ratio. Recent tests at Oklahoma (Hendrickson et al., 1960), have shown that steer calves fed continuously on a high plane of nutrition had higher percentage of fat, less water, the same amount of protein and more marbling in the rib eye than steers fed at a moderate plane of nutrition. However, the moderate fed group appeared to be most tender, e.g., a 16-lb. shear test for the full-fed group and a 14-lb. for the moderate fed steers.

EDITOR'S NOTE: *The accompanying article is from workshop remarks of Dr. Beeson at the Coordinated Beef Improvement Conference held at Ft. Collins, Colo., recently. That event was sponsored by the American National Cattlemen's Assn., American Society of Animal Production and Colorado State University.*

Richardson et al., (1961), reported that heifers fed on a concentrate to roughage ratio of 3:1 had essentially the same marbling scores and carcass grade as heifers fed higher concentrate to roughage ratio of 5:1. In Minnesota (Aunan et al., 1960) steers fed about 0.5 lb. fat per head daily along with a full-feed or shelled corn and limited hay graded significantly lower and had less marbling than steers fed no fat. Also, in this same study carcasses from steers fed ground ear corn had higher marbling scores and the lean tissue of the rib sample contained more ether extract (fat) and less outside fat cover than steers fed shelled corn. A majority of these data tend to indicate that a moderate amount of roughage in the diet is conducive to more desirable beef.

TYPE OF FEED—Corn silage is widely used as a source of roughage in fattening rations for cattle. Several tests have been reported recently on the influence of the level of silage feeding on carcass quality. Research at Purdue (Perry et al., 1961), has indicated that a two-thirds full-feed of corn (8.7 lb. daily) with corn silage will produce the same carcass grade and dressing percentage in steer calves as a full-feed of corn (13.1 lb. daily). After 205 days on feed, each group of 20 steers had 17 choice carcasses and three good and dressed 61%. In a study at Illinois (Neumann et al., 1960), cattle full-fed cracked shelled corn throughout the feeding period carried the most otuside finish or bark but showed a lower marbling score than the steers fed on a heavy feed of corn silage during part of the fattening period. In South Dakota (McCone, 1961), observed that steers fed corn or sorghum silage had similar carcass grades, but consistently the corn silage steers had about a 2% higher dressing percentage even when fed on the same dry weight basis. Apparently certain types of feeds have an influence on dressing percentage and carcass grade. This point is also illustrated by a recent experiment with dried beet pulp at Nebraska (Rowden et al., 1961). Fattening heifers fed a mixture of 85% corn and 15% dried beet pulp gained 12% faster on 5% less feed and averaged one-third grade higher than heifers fed a ration with 100% corn.

PHYSICAL CHARACTER OF FEED—The physical nature of the feed has an indirect effect on carcass quality in respect to how "roughness" influences the microbial synthesis in the rumen. It has been clearly demonstrated that finely ground rations tend to depress feed intake, feed conversion and fat deposition. Numerous studies have shown that pelleting high roughage diets will increase feed intake, daily gain and improve carcass quality. Perry et al., (1959), observed a 2% increase in dressing percentage and significantly higher (one grade) carcass grade by pelleting a ration containing 70% corn cobs and 30% concentrate. However, there was no change in carcass grade or dressing percentage from pelleting a ration containing 55 or 80% of concentrates. In contrast, McCroskey et al., (1961), showed that dressing percentage and carcass grade were unaffected by pelleting a 1:4 concentrate to roughage ration, but carcass grade was reduced slightly by pelleting a 4:1 ration. Chemical or physical composition of the 9-10-11th rib cuts was not significantly affected by pelleting.

Shaw (1961) has shown through basic research that the physical form of feeds influences the type of fatty acids produced in the rumen and thus the animal response. Although no carcass studies were made, it is significant to note that steers fed ground and pelleted alfalfa hay and flaked corn gained 22% more on 18% less feed than steers fed chopped alfalfa hay and ground corn. This drastic difference is attributed to the increase in the production of propionic acid by rumen microorganisms and the decrease in acetate. Fifty percent of the energy derived from feed by ruminants comes from the organic acids produced by microbial action. More recent research indicates that the key to improving feed conversion and to control the carcass composition of beef products lies in the degree to which rumen microbial activity can be altered and controlled. Tenderness and palatability may be partially dictated by rumen synthesis together with genetic factors and hormone secretion.

PHOSPHORUS — Phosphorus is the only mineral element which has been shown to significantly affect the quality of beef. Hall et al., (1944), observed that rib roasts from high-phosphorus steers were higher grade in tenderness, desirability of flavor, quality of juiciness and texture. After ripening 28 days, rib cuts from high-phosphorus steers suffered less spoil-

age and lower shrinkage losses than the low-phosphorus steers. In general, phosphorus-deficient beef was inferior in palatability, keeping quality and shrinkage loss. In contrast, insignificant differences were found in the quality of beef from steers fed on high and low levels of calcium. This difference in response to phosphorus and calcium is not strange since a rib eye of beef contains 50 times more phosphorus than calcium. Feeding trace minerals to steers has not noticeably changed the carcass grade, marbling score, fat thickness or rib eye measurement (Koch et al., 1960). However, it was observed that cattle fed trace mineralized salt shrank less in transit to market.

HORMONES — Numerous studies have shown that hormone-like substances such as diethylstilbestrol will increase muscle growth in cattle but will not increase fat deposition. The use of stilbestrol has found wide acceptance among cattle feeders, and it is estimated that 75% of all beef-type cattle are either implanted with or fed stilbestrol. There is no evidence to indicate that the use of stilbestrol will improve carcass quality, but the tendency is in the direction of decreasing fat deposition. Usually cattle treated with stilbestrol must be fed to a heavier market weight to reach the same degree of finish and carcass grade as cattle not fed stilbestrol.

ANTIBIOTICS — Antibiotics such as Aureomycin or Terramycin will significantly improve carcass quality when fed in conjunction with stilbestrol. Research at Purdue (Perry et al., 1958), clearly revealed that feeding 80 mg. of Aureomycin daily to steers that received stilbestrol increased gains 5.4% and upgraded the carcass from 47% choice (no antibiotic) to 72% choice carcasses with antibiotic. Similar results were obtained by feeding Aureomycin (100 mg. daily) in combination with hexestrol to two-year-old steers (Beeson et al., 1959). Several experiments have shown that a combination of Terramycin and stilbestrol is superior to stilbestrol alone from the standpoint of improving gain, feed efficiency and carcass quality.

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James B. Beam Distilling Co., 65 East South Water St., Chicago 1, Ill. • Brown-Forman Distillers Corp., P. O. Box 1080, Louisville 1, Ky. • Double Springs Distillers, Inc., 70 Scollay Square, Boston 8, Mass. • Fleischmann Distilling Corp., 625 Madison Ave., New York 22, N. Y. • Glenmore Distilleries Co., P. O. Box 900, Louisville 1, Ky. • Grain Processing Corp., 1600 Oregon St., Muscatine, Iowa • Kentucky River Distillery, Inc., Brook and Eastern Parkway, Louisville 8, Ky. • Medley Distilling Co., P. O. Box 548, Owensboro, Ky. • Barton Distilling Co., Bardstown, Ky. • Merchants Distilling Corp., 1 North La Salle St., Chicago, Ill. • Midwest Solvents Co., Inc., 1300 Main St., Atchison, Kan. • Mr. Boston Distiller, Inc., 1010 Massachusetts Ave., Boston 18, Mass. • National Distillers Products Co., Grain Products Sales, 99 Park Ave., New York 16, N. Y. • Schenley Distillers, Inc., 26 E. Sixth St., Cincinnati 2, Ohio • Joseph E. Seagram & Sons, Inc., Grain Products Division, 375 Park Avenue, New York 22, N. Y. • Stitzel Weller Distillery, Inc., Sta. D, Louisville, Ky. • Hiram Walker & Sons, Inc., Peoria 1, Ill.

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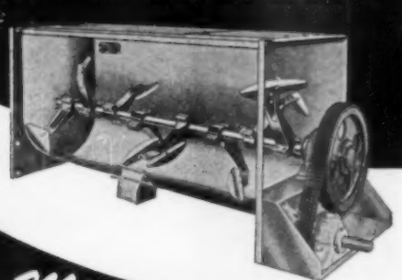

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- Feed
- Minerals & Vitamins
- Fertilizers

BLENDS DRY MATERIALS with LIQUID ADDITIVES
- Molasses
- Fish Solubles
- Animal Fats

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ADDRESS _____
CITY _____ STATE _____

Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

Nov. 15-17—Second Conference on Stored Grain Insects and Their Control; Kansas State University, Manhattan, Kansas; chm., Prof. D. A. Wilbur, Entomology Dept.

Nov. 1—Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Dr. Philip Derse, Wisconsin Alumni Research Foundation, 506 Walnut St., Madison 5, Wis.

Nov. 1-2—Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 1-3—Cornell Nutrition Conference; Statler Hilton Hotel, Buffalo, N.Y.; chm., Prof. Douglas E. Hogue, Animal Husbandry Dept., Wing Hall, Cornell University, Ithaca, N.Y.

Nov. 5-8—National Renderers Assn., Inc.; Waldorf-Astoria Hotel, New York, N.Y.; asst. sec., Rose Alpert, 30 North La Salle St., Chicago 2, Ill.

Nov. 6-7—Egg Industry Conference; North Carolina State College, Raleigh; Motte V. Griffith, Jr., College Extension Division, Box 5125, Raleigh.

Nov. 7-8—Nebraska Poultry Improvement Assn.; National Guard Armory, 176 No. 10th St., Lincoln; sec., Doyle H. Free, Poultry Husbandry Bldg., University of Nebraska, Lincoln.

Nov. 8-9—Illinois Feed Assn.-Illinois Poultry & Hatchery Federation joint convention; Springfield Armory, Springfield; sec., I.F.A. Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., I.P.H.F., Aubrey Harless, Shelbyville, Ill.

Nov. 9-10—National Swine Industry Conference; Statler-Hilton Hotel, St. Louis, Mo.; chm., Keith Myers, Grundy Center, Iowa.

Nov. 13-14—Washington Animal Industry Conference; Skagit Valley College, Mount Vernon, Wash.; John G. Wilson, mgr., Washington State Feed Assn., Inc., 814 Second Ave. Bldg., Seattle 4.

Nov. 16-19—Florida Nutrition Conference; Grand Bahama Hotel, West End, Grand Bahama Island; chm., Dr. J. P. Feaster, Animal Husbandry and Nutrition Dept., University of Florida, Gainesville.

Nov. 17—Nebraska Feed and Nutrition Conference; University of Nebraska, Lincoln; Dr. P. L. Kelly, chm., Dairy Husbandry Dept.

Nov. 17-18—Tennessee Feed Manufacturers Assn.; Holiday Inn of America, 980 S. 3rd, Memphis, Tenn.; sec., C. H. Warfield, 200 American Trust Bldg., Nashville, Tenn.

Nov. 19-21—Western Grain & Feed Assn. of Iowa; Fort Des Moines Hotel, Des Moines, Iowa; sec., Bob Skinner, 401 Shops Bldg., Des Moines 9.

Nov. 30-Dec. 1—Dealers Nutrition Conference; University of Nebraska, Lincoln; Dr. P. L. Kelly, chm., Dairy Husbandry Dept.

Dec. 5-6—North Dakota Turkey Convention; Civic Center Auditorium, Fargo; sec., North Dakota Turkey Federation, Irving J. Mork, Box 2408, State University Station, Fargo.

Dec. 6-7—Missouri Poultry and American Poultry & Hatchery Federation Midwest Quickie Convention; Hotel Continental, Kansas City, Mo.; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia, Mo.

Dec. 7-8—Michigan Feed & Grain Dealers Assn.; Pantlind Hotel, Grand Rapids, Mich.; sec., Nevels Pearson, Box 472, East Lansing.

Dec. 7-8—North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh; chm., Dr. G. H. Wise, Animal Nutrition Section, Animal Industry Dept.

Dec. 13—American Society of Agricultural Engineers; Palmer House, Chicago; grain storage and feed processing session, cooperative program sponsored by ASAE and Grain Processing Machinery Manufacturers Assn.; sec., GPMMA, John Wessman, 400 W. Dartmouth Rd., Kansas City 13, Mo.

1962

Jan. 8-9—Kansas Formula Feed Conference; Kansas State University, Manhattan; chm., Prof. T. B. Avery, Poultry Science Dept., West Waters Hall.

Jan. 9-11—National Turkey Federation; Memorial Auditorium, Dallas, Texas; co-headquarters hotels, Baker and Adolphus; sec., M. C. Small, Box 69, Mount Morris, Ill.

Jan. 21-23—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

Jan. 21-24—Farmers Grain Dealers Association of North Dakota; Civic Memorial Auditorium, Fargo; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Jan. 23-27—New Jersey Farmers Week and Farm Show (Jan. 23-25); Trenton Armory; sec., Phillip Alampi, New Jersey Department of Agriculture, Trenton 25.

Jan. 28-30—Midwest Feed Manufacturers Assn.; Shamrock-Hilton Hotel, Houston, Texas; exec. vice

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PGB-250 This is the trademark of DPi's dry vitamin A for fortifying feeds, pre-mixes, concentrates, and other products fed to poultry and livestock. The material consists of golden orange spherical particles in a size range between 30 and 120 mesh.

DPi has been a primary producer of vitamin A for a long time, was first to synthesize it commercially in this country, produces vitamin A in a modern plant using methods and processes developed in DPi laboratories.

Palmitate This is an inherently more stable form of vitamin A. It resists the effects of heat, moisture, and long storage. Testing vitamin A palmitate and the other commercial ester, vitamin A acetate, in stored feeds and premixes, we typically find 25% or better stability for the palmitate than for the acetate.

Gelatin is the most effective substance we have found for protecting vitamin A against air and minerals. Its digestibility makes the vitamin quickly available to the bird or animal.

250,000 The vitamin A potency of PGB-250 is 250,000 units per gram. You can also get potencies of 30,000, 20,000, or 10,000 units per gram. The diluent used in these dilutions is solvent-extracted soybean feed of particle size range especially chosen to blend with PGB-250.

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CALENDAR FOR 1961-62

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pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City, Mo.

Jan. 29-31 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Jan. 30-31—Illinois Agricultural Industries Forum; University of Illinois, Urbana, Ill.

Jan. 31-Feb. 1 — Illinois Nutrition Conference; University of Illinois, Urbana; chm., Dr. Carl L. Davis, Dairy Science Dept.

Jan. 31 - Feb. 1 — New Hampshire Poultry Health Conference; University of New Hampshire, Durham; Richard Warren, Poultry Science Dept.

Feb. 1—Missouri Turkey Day; University of Missouri, Columbia; sec., Missouri Poultry Improvement Assn.,

Feb. 2-3—Minnesota Turkey Growers Assn.; Leamington Hotel, Minneapolis; sec., Roy C. Munson, 2200 University Ave., St. Paul 14, Minn.
E. M. Funk, Box 568, Columbia.

Feb. 1-2—Oregon Animal Industry Conference; Oregon State University, Corvallis, Ore.; co-sponsored by the Oregon Feed & Seed Dealers Assn. and Oregon State University; chm., Bill Eggimann, Dairy Cooperative Assn., 2613 S.E. 8th Ave., Portland.

Feb. 4-6—Wyoming Grain, Feed & Seed Dealers Assn.; Townsend Hotel, Casper, Wyo.; sec., Everett L. Berry, Box 118, Sheridan, Wyo.

Feb. 5-7—Association of Southern Agricultural Workers; Jacksonville, Fla.

Feb. 7-9 — American Dehydrators Assn.; Stardust Hotel, Las Vegas, Nev.; Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 9-11 — Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 67 E. Madison, Chicago 2, Ill.

Feb. 12 - 13 — Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry and Range Management Dept.

Feb. 14-15—Pacific Northwest Feed Mill Production School; Benjamin Franklin Hotel, Seattle; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 15-16 — Utah Feed Manufacturers & Dealers Assn. Annual Nutrition Conference and Meeting; The Newhouse Hotel, Salt Lake City; sec., Dr. Lawrence Morris, Brigham Young University, Provo.

Feb. 16 — Washington State Feed Assn. annual convention; Benjamin Franklin Hotel, Seattle; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 18-20 — Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo; sec., George G. Greenleaf, P.O. Box 151, Worthington.

Feb. 20 - 21 — Virginia State Feed Convention and Nutrition Conference; Hotel Roanoke, Roanoke, Va.; sec., Virginia State Feed Assn., J. Paul Williams, 615 E. Franklin St., Richmond 19, or Prof. Paul M. Reaves, Dairy Science Dept., Virginia Polytechnic Institute, Blacksburg.

Feb. 26 - March 1 — Colorado Livestock Days; Colorado State University, Fort Collins; chm., Dr. C. D. Story, head, Animal Science Dept.

March 2-3—Oklahoma Feed Industry Conference and Work Shop; Oklahoma State University, Stillwater; Dr. Rollin H. Thayer, chm., Poultry Science Dept.

March 4-6—Nebraska Grain & Feed Dealers Assn.; The Cornhusker Hotel, Lincoln; sec., Howard W. Elm, Terminal Bldg., Lincoln 8, Neb.

March 8 - 9 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. R. D. Creek, Poultry Dept., University of Maryland, College Park.

March 13—Illinois Swine Growers Day; Univerity of Illinois, Urbana, Ill.

March 15-16—Oregon Feed & Seed Dealers Assn.; Sheraton Hotel, Portland; sec., Russ Hays, Lewis Bldg., Portland 4.

March 15-17 — Pacific Dairy and Poultry Assn.; Biltmore Hotel, Los Angeles, Cal.; sec., Lloyd J. Powers, 1304 E. 7th St., Los Angeles 21.

March 19-21—Poultry and Egg National Board; Palmer House, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

March 21-23—Grain & Feed Dealers National Assn.; Denver - Hilton Hotel, Denver, Colo.; Secretaries Circle meetings March 19-20; sec., Herbert L. Sharp, 401 Folger Bldg., 725 15th St. N.W., Washington, D.C.

March 25 - 30 — Grain Elevator & Processing Superintendents; Town House Motel, Omaha, Neb.; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

March 28—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati, Ohio; Dr. Lawrence E. Carpenter, Executive Director, Distillers Feed Research Council, 1232 Enquirer Bldg., Cincinnati 2.

March 28—Commercial Egg Clinic; Texas A&M College, College Station; B. C. Wormeli, Extension Poultry Husbandman.

April 9-10 — National Institute of Animal Agriculture; Purdue University, Lafayette, Ind.; sec., Karl D. Butler, P.O. Box 521, First National Bank Bldg., Ithaca, N.Y.

April 10-12—Animal Health Institute; Statler-Hilton Hotel, Washington, D.C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines 9, Iowa.

April 13 — Illinois Cattle Feeders Day; University of Illinois, Urbana.

April 18—Nebraska Feeders Day; University of Nebraska, Lincoln; chm., Dr. Robert M. Koch, Animal Husbandry Dept.

April 26-28 — Texas Grain & Feed Assn.; Hotel Texas, Ft. Worth; sec., R. B. Bowden, 504 Ft. Worth Club Bldg., Ft. Worth 2.

April 26-28—California Hay, Grain & Feed Dealers Assn.; Biltmore Hotel, Los Angeles, Cal.; sec., Leo L. Johnson, 1400 10th St., Sacramento 14, Cal.

April 26-28—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

April 27 — Indiana Cattle Feeders Day; Purdue University, Lafayette; chm., Dr. W. M. Beeson, Animal Science Dept.

May 4 - 5 — Illinois Grain Dealers Assn.; St. Nicholas Hotel, Springfield, Ill.; exec. sec., Donald E. Palmer, 910 Lehmann Bldg., Peoria, Ill.

May 10-11 — Alabama Poultry Industry Assn. Convention and Poultry Jubilee; Dinkler - Tutwiler Hotel, Birmingham, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

May 10-13—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 54.

May 27-28—Missouri Grain & Feed Assn.; Hotel Governor, Jefferson City, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

June 28-30—Canadian Feed Manufacturers National Assn.; Sheraton Brock Hotel, Niagara Falls, Ontario, Canada; sec., Ontario Division, H. J. Willcock, 356 Eastern Ave., Toronto 8, Ontario.

July 17-19—American Poultry Congress & Exposition; St. Louis, Mo.; sec., American Poultry & Hatchery Federation, Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 13-18 — 12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Socity, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

Aug. 24—Purdue Swine Day; Purdue University, Lafayette, Ind.; chm., R. A. Pickett, Animal Science Dept.

Nov. 8 — Upper Peninsula Feed Dealers Assn.; State Office Bldg., Escanaba, Mich.; UPFDA, Box 342, Sault Ste. Marie.

1963

March 24-29 — Grain Elevator & Processing Superintendents; Commodore Perry Hotel, Toledo, Ohio; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

Kent Holds Refresher On Quality Control

MUSCATINE, IOWA—A refresher course on quality control was recently held at the headquarters of Kent Feeds, Inc., here for plant managers, plant quality control supervisors and purchasing agents of all Kent feed plants.

Don Funk, assistant nutritionist in Kent's research and nutrition department, and Dick Brown, quality control supervisor for the Kent Muscatine plant, served as instructors for the two-day school.

Subjects covered included: Feed microscopy; flotation techniques for the separation of different ingredients in feed samples, testing methods for contamination in ingredients and spot tests for the determination of micro-ingredients in finished feeds.

Attending the sessions were: K. C. Daniels, Sioux City, Iowa, plant manager; Rich Swarson, Waterloo, Iowa, plant manager; H. P. Woodstra, vice president in charge of purchasing for all Kent plants; Paul Pearson, Sioux City, purchasing agent; Dwight Graham, quality control supervisor, Sioux City plant; Bob Reel, quality control supervisor, Waterloo plant, and Max Churchill, assistant nutritionist, Muscatine plant.

ALL-NEW JAY BEE ALL-IN-ONE FEEDMAKER

The all-new Jay Bee All-In-One Feedmaker has the same high capacity, consistently uniform, top quality "texture grind" of all Jay Bee Hammermills . . . and the Jay Bee-designed air conveyor makes it the quickest, smoothest complete custom mill on wheels!

YEARS AHEAD FEATURES:

- 20-inch width, heavy duty Jay Bee Hammermill, powered by 120 HP GM diesel engine.
- 5-speed automatic feeder, electrically raised and lowered.
- Automatic feed level control in mixer.
- Easy-to-reach supplement hopper.
- High capacity molasses pump with throwout clutch drive.
- Jay Bee-designed air unloading system.
- Jay Bee-designed air separating system.
- Jay Bee-designed magnet in Hammermill throat.
- Streamlined design.

See your nearest distributor or write today!

JAY BEE J. B. SEDBERRY, INC.

Dept. C — Tyler, Texas • Franklin, Tenn.

Jay Bee manufactures the world's finest hammermills and a complete line of materials handling equipment. If it's as good as Jay Bee, it's *got* to be Jay Bee!

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GRINDING

(Continued from page 32)

YOUR HAMMERMILL—Use the hammermill as a sales tool to sell concentrates and supplements with the rest of your processing equipment. Keep local feeding records and show your customers what a complete feeding program can do for them. You must sell your service. There are many services to offer in connection with your hammermill. Some of these services are the use of:

1. Scales.
   (a) batch
   (b) receiving
   (c) delivery
2. Mixing.
3. Grain bank.
4. Pelleting.
5. Bulk or bag.
6. Delivery.
7. Feed recommendations and formulas.

With farms increasing in size they demand more time from the owners or managers. The small mill can help this operation in several ways. By offering the above services you can relieve the feeding labor load from 75-85%. You can also give a balanced ration. Your scales guarantee all ingredients to be weighed accurately and mixed properly. Every pound of feed is the same this week as that mixed six months from now. By offering a grain bank service the feeder's own grain is used in a complete ration to be delivered to his feeder. With the use of self-feeders the livestock man can do his feeding virtually by telephone. Work out his feeding program in advance and make a record of this at your mill. By operating an efficient mill you are able to perform this service more economically than he can do it himself on the farm. You have the necessary equipment to do the proper grinding and mixing. An investment of this type is not feasible for an average feeder today. A feeder would be operating this equipment one hour per day while a mill would be operating 12-18 hours per day.

CUSTOM MILL OPERATION—Let us examine a typical milling operation producing a cattle feeding ration that will require the grinding of shelled corn, milo, ear corn and hay.

For purpose of illustration we will use our small custom mill located in northwest Missouri. This is in a good corn area so we operate a grain bank service for our customers. The shelled grains are stored in four 11,000-bu. bins. As grains are needed in the milling operation they are drawn and put in two overhead grinding bins. From here the grain flows by gravity through a crusher feeder into a 20-in. 3,600 r.p.m.-100 h.p. hammermill. It is then blown into a dust collector on top of the mill building, through a distributor and into holding bins. This operation processes shelled corn and milo.

The hay and ear corn are ground through a 30-in. 3,600 r.p.m.-200 h.p. hammermill in a separate building. There is a 75 ft. chain drag through the center of the hay and ear corn building coming into the grinding room. When grinding hay, it comes in on the drag and goes into a shredder. It is then blown back into the hammermill where it is blown into a dust collector, through a distributor and into a live-bottom holding bin. When grinding ear corn we use the same drag. Before the drag reaches the shredder a slide gate is opened and the ear corn drops into a hopper over the ear corn crusher. From here it drops directly into the hammermill and then into a collector and a holding bin over the mill.

With the ingredients in overhead bins for feeding into a batch scale by means of screw feeders, we are now ready to take an order from a feeder.

To illustrate how the operation works let us use O. C. Swackhamer, who manages the Manley Farms, as the feeder. He has 3,700 acres of land and feeds out about 2,500 head of cattle a year. He or his foreman calls and gives an order for the feeders: "Ranch 5 north feeders—1 load, Ranch 7 south feeders—1 load." The feeders will each hold over 8 tons. Since we know they are not completely out of feed we make up 14 tons to be delivered to Manley Farms. The feed will consist of the following ingredients per ton:

Molasses	100 lb.
Ear corn	200 lb.
Hay	200 lb.
Ground shelled corn	1230 lb.
Soybean meal	100 lb.
Milo	100 lb.
Salt	20 lb.
Premix	50 lb.

Hay, ear corn, ground shelled corn, milo and soybean meal in the overhead bins are drawn into the hopper scale, weighed and discharged into the mixer. The premix and salt are pre-weighed and dropped into the mixer through a floor dump. After the proper mixing time, the mixer is discharged into the mash leg by means of a screw feeder and the mixture is carried to a holding bin over the pellet mill. The molasses is added at the pellet mill as the feed enters the conditioning chamber. Through the pellet mill the hot pellets drop into the cooler in the basement, over a shaker to take the fines off and returned to the pellet meal bin. The pellets go into the pellet leg and are discharged into one of the loading-out bins over the scale driveway for loading into one of the delivery trucks, weighed, and sent on the way.

The above formula illustrates how important hammermills are to the small custom mill today. Of the above formula, 86½% was ground at the plant. This is why you must have efficiency in grinding operations today.

Keep mills in top operating condition and put good products through them. You are then ready to be of service to your customers. Serve them until it hurts—but don't forget to get compensated for it. Your customers will continue to demand and pay for service which helps them make a profit.

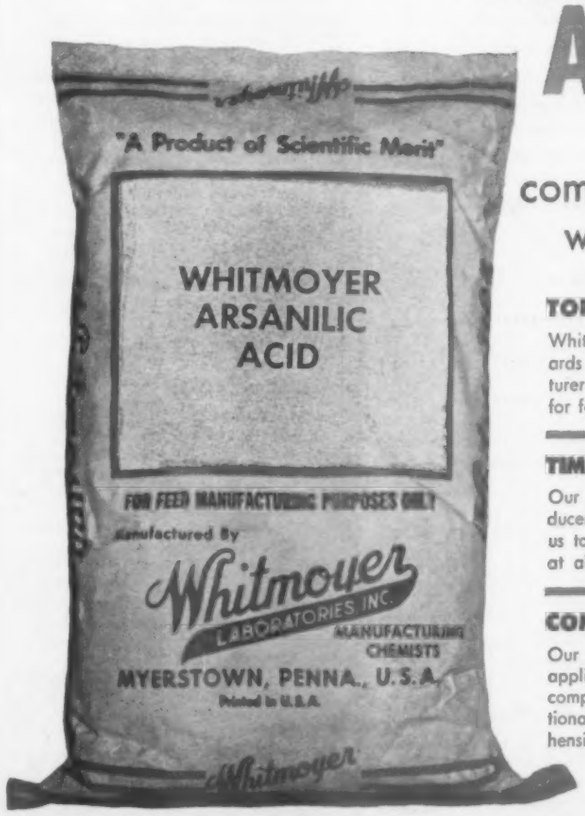
WHAT!

Food Without a Hook?

FEEDSTUFFS

Offers a lot to its readers..no catch to it. $5 a year brings 52 issues crammed full of information.

YES INDEED! WE DO MANUFACTURE ARSANILIC ACID



In fact, when it comes to Arsanilic Acid, we can offer you:

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Whitmoyer Arsanilic Acid fully meets the high standards required by the feed industry. No manufacturer can offer you a higher quality Arsanilic Acid for feed use.

TIME-PROVEN DEPENDABILITY

Our years of experience as a leading basic producer of millions of pounds of Arsanilic Acid enable us to provide uniformly top quality Arsanilic Acid at all times.

COMPLETE SCIENTIFIC DATA

Our brand new brochure on Arsanilic Acid and its application in manufactured feeds has just been compiled by Dr. H. J. Eoff, our Director of Nutritional Research. Write for your copy of this comprehensive, up-to-the-minute report on Arsanilic Acid.

"OUR 30th ANNIVERSARY OF SERVICE TO THE FEED INDUSTRY"

IN CANADA
Whitmoyer Laboratories, Ltd. Port Credit (Toronto Twp.), Ontario

IN ENGLAND
Whitmoyer-Reed, Ltd. Barking, Essex

Whitmoyer LABORATORIES, INC.
Myerstown, Penna.

WORTH LOOKING INTO

NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7729—Poultry House Plans

Free, detailed blueprints and specifications for fully-automated poultry houses are now available from the engineering department of the Keen Manufacturing Corp.

Among the plans being offered are complete slat floor arrangements, partial slat floor layouts, multiple tiered roost systems and colony cages. Similar material is available for fully-automated cages, Keenco's latest advancement in poultry automation.

Equipment featured in the various systems include the Keenco F-70 automatic poultry feeder, heavy-duty pit cleaners, automatic waterers, automatic egg collectors, automated cages, metal nests and certified ventilation.

For additional information, check No. 7729 on the coupon and mail.

No. 7732—Polyvalent Bronchitis Fraction

A polyvalent bronchitis fraction to be included in DPL Newcastle-Bronchitis vaccines has been made commercially available by Delaware Poultry Laboratories, Inc.

Successful development of the polyvalent vaccine is said to permit poultry farmers to give their birds more complete protection against strains of the two types of bronchitis prevalent in U.S. poultry areas. The DPL virus research group has been studying the concept of polyvalent protection against bronchitis since poultry scientists at the University of Connecticut and Iowa State University had succeeded in isolating more than one serotype of infectious bronchitis virus.

DPL is making the polyvalent bronchitis fraction available in combination with DPL B1 Strain Newcastle disease vaccine, as well as N-36 Strain Newcastle vaccine.

For additional information, check No. 7732 on the coupon and mail.

No. 7730—Hog Disease Control Guide

The publication of a guide to hog disease control has been announced by Vineland Laboratories, Inc.

A product index for the firm's line of hog medications, the booklet details methods of treatment for disease ranging from scours, flu and dysentery to shipping fever and pleurisy. It also covers the fiels of nutritional deficiencies, feeding equipment sanitation and worm problems.

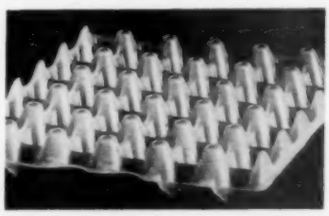
The booklet explains how each of seven key products dovetails with the firm's Vinelab Crown Proportioner. The latter accurately proportions a wide range of soluble drugs, operating on the basis of water pressure alone, assuring livestock of precise treatment whether or not they are off feed.

For a copy of the folder, check No. 7730 on the coupon and mail.

No. 7725—Plastic Egg Collection Flat

A plastic egg collection flat is now being offered by the Big Dutchman Automatic Poultry Feeder Co.

The new flat, which is designed for use in commercial operations, is standard 5 x 6 row size and accommodates all sizes of eggs. It is resistant to chemicals, impervious to oil and detergents, and can withstand boiling water temperatures, according to the manufacturer.



Molded to allow full air circulation, which in turn cools eggs faster, the plastic flats are said to prevent eggs from cracking and checking. They also stack tightly and require a minimum of storage space.

The plastic flat, which outlasts paper flats 100 to 1, according to a company report, costs only 5 to 6 times as much.

For additional information, check No. 7725 on the coupon and mail.

No. 7731—Baler Twine

Belgian baler twine with a 325 lb. tensile strength is now available from Shellbuilder Co. Made of long strand fibers grown in east Africa and spun in Belgium on Mackhaul-Gill spinners, the twine is said to be both smooth and strong. It will neither break nor knot, according to the company.

Every bale contains 9,000 ft. of twine, each foot treated with a special coating designed to prevent mildew and resist the attacks of insects and rodents.

For information check No. 7731 on the coupon and mail.

No. 7733—Protein Concentrate

Development of a new protein concentrate that combines the finest nutrients of whey and yeast into a single, convenient high protein feed ingredient has been announced by the Knudsen Creamery Co.

Called "Wheast," the new product is being used effectively in commercial turkey and chicken feeds, in mink rations, in fish food and pet foods, according to the manufacturer. It is said to be effective in special feeds for convalescent animals, particularly beef and dairy cattle.

According to Knudsen Creamery, Wheast is produced by a controlled fermentation of specially selected dairy yeast in fresh cottage cheese whey. During fermentation the yeast consumes all of the lactose in the whey. Sugar is thus transformed into high quality protein. In the process many natural vitamins and unknown growth factors develop.

The new product contains 52 to 55% protein. The yeast protein is amplified by milk albumin and other milk proteins and nutrients which are separated from the cottage cheese whey and carefully dried. Thus, a combination of proteins and whey factors are brought together into a single product of high nutritional quality.

The manufacturer says Wheast has proven its superiority in feeding tests with turkeys.

For additional information, check No. 7733 on the coupon and mail.

No. 7728—Molasses Pellet Mill

Sprout, Waldron & Co., Inc., announces the availability of Bulletin 180 on their Pellet Ace mill for molasses pellets.

This bulletin describes the advantages of their in-line blending conditioner and hot molasses injection system for making up to 30% molasses content pellets.

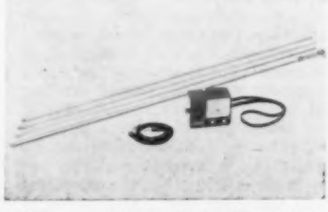
For a copy of the bulletin, check No. 7728 on the coupon and mail.

No. 7724—Grain Temperature Probe

A portable temperature probe, just introduced by the Douglass Chemical Co., features an illuminated meter dial for easy temperature-reading inside the bin.

The lightweight probe is designed for general grain inspection, measuring the perimeter of hot spots, testing temperature cable systems, and checking on aeration efficiency.

Circuits are completely enclosed from probe tip to meter, the self-coiling stretchable cord will not tangle, and the removable probe tip is sphericle to reduce probe drag, according to the company.



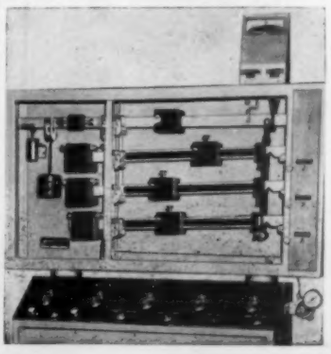
Circuit protection for the meter, calibration circuit and battery adjustment to compensate for voltage variation are all built in. The standard probe with extension rods is 16 ft. long.

For more information, check No. 7724 on the coupon and mail.

No. 7726—Scale Control System

Cardinal Scale Manufacturing Co. has announced a new electro-mechanical control system to be used for the weighing, blending or batching of two or more ingredients. This is connected to conventional mechanical scale levers.

This system is said to greatly reduce maintenance problems. In almost all cases, in any kind of a break-down of the system, an ordinary electrician can make the repairs, the manufacturer states. It is customized for the individual user to fit into the manufacturing process for which it is needed. The system is



Send me information on the items marked:

- ☐ No. 7724—Temperature Probe
- ☐ No. 7725—Egg Collection Flat
- ☐ No. 7726—Scale Control System
- ☐ No. 7727—Pig Starter Additive
- ☐ No. 7728—Molasses Pellet Mill
- ☐ No. 7729—Poultry House Plans
- ☐ No. 7730—Disease Control Guide
- ☐ No. 7731—Baler Twine
- ☐ No. 7732—Bronchitis Fraction
- ☐ No. 7733—Protein Concentrate
- ☐ No. 7734—Dehy Alfalfa Booklet

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COMPANY .....

ADDRESS .....

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completely automatic and has automatic cut-off controls. In most cases, delivery can be made for any installation with a period of 10 days.

For additional information, check No. 7726 on the coupon and mail.

No. 7734—Dehydrated Alfalfa Booklet

A new, 24-page booklet, "How to Feed Modern Dehydrated Alfalfa," has been published by the American Dehydrators Assn.

The booklet contains nutrient feeding information for producers of beef cattle, dairy cows, swine and sheep.

It includes specific suggestions on when and how to include dehydrated alfalfa in the rations to obtain maximum benefits economically.

The booklet also provides a capsule survey of recent experiment station reports and other findings pertaining to the beneficial use of Dehy.

For a copy of the booklet, check No. 7734 on the coupon and mail.

No. 7727—Pig Starter Additive

Now available to feed manufacturers is a non-nutritive additive for pig starter feeds designed to get pigs on dry feed early and make them eat more during the critical early growth stages.

According to the manufacturer, Thompson-Hayward Chemical Co., new Pig Caller is a powder that can be "easily and economically" added to any pig starter formula. As a replacement for sugar and flavor products, it is said to reduce considerably the per ton ingredient cost of pig starter, and to make it easier to pellet.

Used along with sugar in the formula, Pig Caller serves as a further feed consumption stimulant, the company states.

For additional information, check No. 7727 on the coupon and mail.

Correction

A typographical error appeared in Worth Looking Into item No. 7689—Antibiotics for Swine, published in the Sept. 23 issue of Feedstuffs. The last paragraph of the item, which pertained to Tylan Premix, a product of Elanco Products Co., division of Eli Lily & Co., says that 1 oz. of the premix fortifies a ton of feed with 10 gm. of the antibiotic. This sentence should have read: 1 lb. of the premix fortifies a ton of feed with 10 gm. of the antibiotic.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7670—Reference table for bag material, St. Regis Paper Co.

No. 7671—Mastitis treatment, Hess & Clark.

No. 7672—Package milling unit, Jacobson Machine Works, Inc.

No. 7673—Hopper car vibrator, Martin Engineering Co.

No. 7674—Bulk feed transport body, Baughman Manufacturing Co.

No. 7675—Duo-directional auger, Wyatt Manufacturing Co., Inc.

No. 7676—Weather effect on business, St. Regis Paper Co.

No. 7677—Scoop auger, Sudenga Industries, Inc.

No. 7678—Controlled feeding of liquids, solids, B-I-F Industries.

No. 7679—Control panel indicating light, Semco Electric Controls, Inc.

No. 7680—Front end loaders, The Frank G. Hough Co.

No. 7681—Antibiotic for CRD, Elanco Products Co.

No. 7682—Poultry performance calculator, Cobb's Pedigreed Chicks, Inc.

No. 7683—Rat extermination, Hess & Clark.

No. 7684—Feed flavoring handbook, Flavor Corp. of America.

No. 7685—Tramp Iron Drum Separator, Eriez Manufacturing Co.

No. 7686—Bulk truck, Winger Manufacturing Co.

No. 7687—Calf raising handbook, Wirthmore Feeds, Inc.

No. 7688—Base for calf milk replacers, Borden Special Products Co.

No. 7689—Antibiotic for swine, Elanco Products Co., Div. of Eli Lilly & Co.

No. 7690—Horizontal batch feed mixer, Sprout, Waldron & Co., Inc.

No. 7691—Pfizer activity review booklet, Chas. Pfizer & Co., Inc.

No. 7692—Fluid pump, Clayton Manufacturing Co.

No. 7693—Lightweight bin vibrator, Martin Engineering Co.

No. 7694—Equipment leasing plan, Nationwide Leasing Co.

No. 7695—Promotion for mastitis medication, The American Cyanamid Co.

No. 7696—Dried beet pulp, The I. S. Joseph Co., Inc.

No. 7697—Equipment brochure, Edw. Renneburg & Sons Co.

No. 7698—Pneumatic conveying system, Sprout, Waldron & Co., Inc.

No. 7699—Fortification of feedlot rations, Vit-A-Way, Inc.

No. 7700—Suspended separation magnets, Indiana General Corp., Stearns Division.

No. 7701—Conveying, tubing elbows, Systems Engineering & Manufacturing Co.

No. 7702—Temperature measuring system, Radson Engineering Corp.

No. 7703—LP-Gas stock tank heater, Brower Manufacturing Co.

No. 7704—Pressurized bulk feed truck, Sprout, Waldron & Co., Inc.

No. 7705—Belt selection guide, The Imperial Belting Co.

No. 7706—Fiberglas storage tanks, Tryco Manufacturing Co., Inc.

No. 7707—Continuous weighing system, Industrial Powertronix, Inc.

No. 7708—Automatic control panel, Thayer Scale Corp.

No. 7709—Sow milk tablets, Agri-Tech, Inc.

No. 7710—Bulk scale, Burrows Equipment Co.

No. 7711—Portable loader, Ft. Worth Steel & Machinery Co.

No. 7712—Livestock tablets, Myzon Laboratories.

No. 7713—Poultry house heater, Electronics, Inc.

No. 7714—Antibiotic treatment for livestock, Abbott Laboratories.

No. 7715—Grain drier literature, Aeroglide Corp.

No. 7716—Steam generator, Clayton Manufacturing Co.

No. 7717—Steel building booklet, The Columbian Steel Tank Co.

No. 7718—Bulk feed bin, Chore-Boy Manufacturing Co.

Grain Moisture Study, Radson Engineering Co., Macon, Ill.—25¢

No. 7719—Self-service rodent killer, Vineland Laboratories.

No. 7720—Portable pneumatic conveyor, The Buhler Corporation.

No. 7721—Mobile feed mill route literature, Seco, Inc.

No. 7722—Service and equipment brochure, General American Transporation Corp.

No. 7723—Grain drying bulletin, Farm Fans, Inc.

Here are some reports on recent work offering a solution to the Blood Spot problem

FEEDSTUFFS, June 11, 1960

Scientist Discusses Egg Bloodspot Causes

MANHATTAN, KANSAS—Rodenticides or a shortage of vitamin K in rations may cause eggs with bloodspots, according to Dr. Paul E. Sanford, poultry husbandry department at Kansas State University.

Referring to low vitamin K, the poultry scientist noted that most poultry rations now contain dehydrated alfalfa meal as a natural source of vitamin K, and that some feed manufacturers are adding synthetic vitamin K as a guard against the hemorrhagic condition.

Dr. Sanford says a 1-2% loss due to bloodspots is to be anticipated (on the candled basis), but if the grading loss runs much higher than 2%, a poultryman "must" become concerned.

Firm's Test Shows Vitamin K Reduces Blood Spot Incidence

VALLEY STREAM, N. Y. – Recently announced experimental results indicate that the feeding of vitamin K reduces the percentage of blood spots in eggs—an abnormality which causes heavy marketing losses.

This observation comes from work conducted by Heterochemical Corp. to study the value of using stabilized vitamin K premixes in retarding the incidence of egg blood spots.

In a technical paper on the tests involving "Hetrogen K Premixes," a brand of stabilized menadione sodium bisulfite produced by Heterochemical, Raymond Berruti and Gilman T. Dedrick conclude:

"It appears that under experimental conditions the addition of 4 gm. of stabilized Hetrogen K per ton of commercial layer feeds would be of great economic advantage in decreasing the number of eggs with blood spots and increasing the percentage of marketable eggs."

Summarizing results of the study in which the incidence of blood spots, egg production, egg weight, interior egg quality and feed consumption were emphasized, Mr. Berruti and Mr. Dedrick report that hens with a history of high blood spots when taken off feed containing 4 gm. of stabilized vitamin K returned to laying eggs with a higher percentage of blood spots.

"These results suggest," they say, "that the stabilized K had a marked effect in prevention of hemorrhages of blood vessels inside the yolk sac and follicle."

More Research Needed

The investigators observe that the need for additional research in the area of reducing blood spot incidence is apparent, and they note that previous work with lower levels of vitamin K of "a questionable stability" showed no curtailment of blood spot occurrence.

They say the study they describe was initiated in view of recent technological advancement in the stabilization of vitamin K in premixes and in view of new information relative to blood spot formation.

They say blood spots in shell eggs continue to be a serious problem for the poultry industry. "Economic losses from these defects are great and with the development of automatic detecting devices the problem is becoming even more intensified from the standpoint of breeder and producer."

Test Procedure

Heterochemical's vitamin K study began with the placing of 540 White Leghorn hens, 14 months of age, in individual 8-in. wire cages. These hens were fed a basal diet on which they had been maintained since reaching 50% production.

The birds were divided into three rows of 180 birds each. Rows A and C were fed the basal diet, while row B was fed the same diet plus 4 gm. of Stabilized Hetrogen K per ton of ration. These hens were maintained in a cage layer house at temperatures which normally exist under winter conditions (in northeastern U.S.). A uniform light day of 14 hours was maintained.

After the fourth week, row B was split into two sections. One section continued to receive the basal ration plus vitamin K. The other section was fed the basal ration only.

Mr. Berruti and Mr. Dedrick report that the percentage of blood spots for row B, the group fed the basal diet and vitamin K, at the beginning of the trial was 6.9%. Row A and row C percentages were 6.3% and 7.7%, respectively.

At the end of the two-week period following initial feeding of Hetrogen K to row B, the incidence of blood spots dropped to 3% in this group, while little change in incidence appeared in rows A and C.

The investigators report that at the end of the four-week period a further decrease (1.7%) in blood spots was evident in row B birds. Row A and C hens continued to show only slight change in the percentage of blood spots.

Mr. Berruti and Mr. Dedrick note that birds receiving supplementary Hetrogen K returned to laying eggs with a high percentage of blood spots within 16 days after the removal of supplementary K from the ration. One half of the birds in row B which continued to receive supplementary K laid eggs with an incidence of blood spots of 1.9%, whereas the group of birds taken off of Hetrogen K laid eggs 5.4% of which exhibited blood spots.

Further investigation is needed, the report authors say, to determine whether the reduction of blood spot incidence among birds in the test group was "due to the effect of Stabilized Hetrogen K in keeping blood vessels in better clotting condition or due to increased availability over other forms of vitamin K."

HETEROCHEMICAL CORPORATION
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Dehy Industry's Uniform Growth Cited

KANSAS CITY — Uniform growth of the market for dehydrated alfalfa along with the growth in production was cited by the American Dehydrators Assn. in an industry progress report just issued.

The report on industry progress points out the close relationship between formula feed sales and disappearance of dehydrated alfalfa. Figures of the American Feed Manufacturers Assn. showing an increase in feed tonnage for the first half of 1961 over 1960 was cited, and it was pointed out that dehy disappearance for the same period was up 9.7% from 1960.

ADA says that disposal of dehydrated alfalfa has kept pace pretty steadily as production increased at a rate averaging about 5% annually. Annual fluctuations in production have ranged from a 24.3% increase to a 17.3% decrease, according to Table 1.

The dehydrators association said that the accompanying chart on the changing pattern of disappearance is linked with the steady improvement in sales. It pointed out, "Greater storage capacity under inert gas, better products from a physical handling standpoint, greater dependability of both shipments and quality have tended to level out the average monthly disappearance until it approaches the point of 50% for each of the two six-month periods, May-October and November-April."

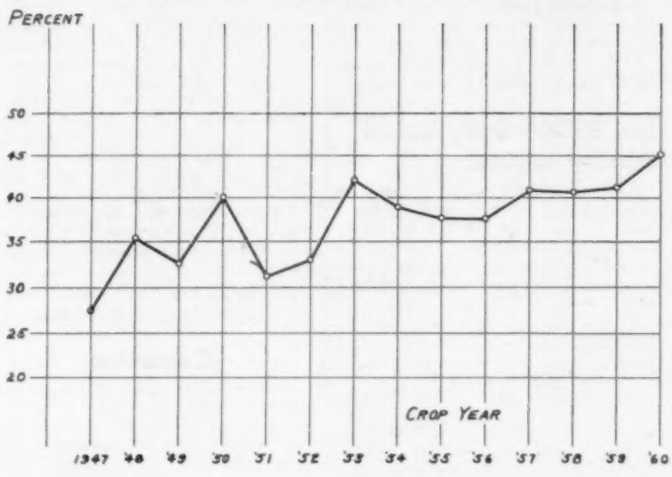
The association's industry progress report continued, "These same factors have, of course, tended to bring closer together the summer low price and the winter high price. This, we will admit, has resulted in a greater reduction of the latter than increase of the former, resulting in a lower weighted average annual selling price than was experienced 10 to 15 years ago. The industry has done much in those 10 to 15 years and more specifically in the past five years to lower the cost of putting a ton of product on track or in truck. Undoubtedly, this is one of the principal reasons that continued growth has occurred."

Reflecting on the causes of the price change, the ADA report continued, "In the wartime economy of the mid-forties to the mid-fifties, prices were high, but the cost of production was high, too, and it wasn't until prices came down from those heights that serious application of cost reducing practices became a must if you were to continue in business."

Dehydrated Alfalfa Production and Disappearance

May 1 through April 30	Thousands tons	Increase (decrease)	Per cent increase (decrease)	Cumulative increase (decrease)	Cumulative per cent increase
PRODUCTION					
1949-50	800.3	68.3	9.30		
1950-51	907.5	107.2	13.39	175.5	22.69
1951-52	846.5	(61.0)	(6.72)	114.5	15.97
1952-53	1020.1	173.6	20.51	288.1	36.48
1953-54	855.6	(164.5)	(16.12)	123.6	20.36
1954-55	1063.7	208.1	24.32	331.7	44.68
1955-56	1163.7	100.0	9.40	431.7	54.08
1956-57	962.3	(201.4)	(17.31)	230.3	36.77
1957-58	1110.7	148.4	13.36	378.7	50.13
1958-59	1122.9	12.2	1.10	390.9	51.23
1959-60	1171.6	48.7	4.34	439.6	55.57
1960-61	1241.4	69.8	5.96	509.4	61.53
DISAPPEARANCE					
1949-50	820.3	111.2	15.68		
1950-51	906.6	86.3	10.52	197.5	26.20
1951-52	851.6	(55.0)	(6.07)	142.5	20.13
1952-53	968.8	117.2	13.76	259.7	33.89
1953-54	899.6	(69.2)	(7.14)	190.5	26.75
1954-55	1002.7	103.1	11.46	293.6	38.21
1955-56	1135.9	133.2	13.28	426.8	51.49
1956-57	1036.1	(99.8)	(8.79)	327.0	42.70
1957-58	1064.5	28.4	2.74	355.4	45.44
1958-59	1167.0	102.5	9.63	457.9	55.07
1959-60	1143.2	(23.8)	(2.04)	434.1	53.03
1960-61	1223.3	80.1	7.01	514.2	60.04

Dehydrated Alfalfa—Percent Disappearance Occuring in November-April



Rail Rates for Cars Of Citrus Pulp Cut

WINTER HAVEN, FLA.—New reduced rail freight rates on carload shipments of Florida citrus pulp cattle feed to New England and eastern states have been announced by the Citrus Processors Assn. here, representing citrus pulp producers in Florida.

The association said that the new lower rates, which became effective Oct. 12, are based on 30 and 35 ton cars from all shipping points in Florida.

According to officials of the association, the lower freight rates will mean substantial savings to those using Florida citrus pulp. Ample supplies are said to be available for immediate shipment, based on the new freight rates.

OVERALL **OUTLOOK** on industry developments comes to you weekly . . . while it's still news in FEEDSTUFFS

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- Two models available—height 42 inches
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SCHOOL

(Continued from page 24)

shops, however, never to lubricate fast running chains in this manner. It is much better that the chains be enclosed in a housing or casing, and some approved type of automatic lubrication be applied.

"If the chains are operated at high speed of 2,000 feet per minute or over, and ordinary lubrication is used, the lubricant is centrifuged off the running chain; therefore, the experienced technicians recommend a forced-feed pump arrangement which will get the oil between the links, pins and bushings. For chains operated at normal speeds, experienced shopmen consider a drip feed lubrication method quite adequate; and for slow speed drives many shops apply the oil on the chains by brushing. If the temperature is much above normal, use a thick oil having considerable body," he explained.

Since mis-alignment will greatly shorten chain life, the sprockets should be examined periodically, he said. If the teeth are worn, then it is not advisable to use a new chain with that sprocket. It is better to use new sprockets that fit the chain. Excessive amount of slack in chains should be checked in order to avoid breakage and injury to operator and equipment.

Mr. Brunson, as in the case of Mr. Olson in the hammermill workshop, emphasized the importance of lubrication, especially in the care and maintenance of gears.

Today's operations will quickly take their toll of gear drives unless steps are taken to maintain them in good operating order. Replacements due to poor maintenance techniques not only mean unnecessary expenses but also delays in operation because replacements are not always easy to obtain.

Therefore, proper lubrication plays an important role. Such proper lubrication is especially necessary due to quantities of floating dust, often of an abrasive nature, which can gradually build up on the outside of the bearing unless carefully wiped off at frequent intervals.

The purpose of any lubricant is to maintain a film of low friction substance between the bearing itself and the shaft.

"It is not true that the shaft runs on the bearing. If it did, neither the bearing nor the shaft would last any time at all. The lubricant completely fills the space between the shaft and the bearing walls, allowing no physical contact. It follows then that a good lubricant must have body which will stand up under great pressures and considerable temperature," Mr. Brunson said.

In the selection of oils and lubricants, it is always wise to make certain that it is the type best suited for your requirements, he said.

As to colloidal graphite, it has been found particularly effective in the first aid treatment of hot bearings and has the advantage of remaining suspended in the lubricant instead of clogging the bearing grooves and the oil reservoirs. In a large number of mills, colloidal graphite has proven to be highly satisfactory, Mr. Brunson stated.

Hammermills

On the subject of hammermills, Mr. Olson pointed out that the industry is learning much about the number of hammers, spacing and the use of fans to improve efficiency.

Spacing of hammers can give flexible control and, in many cases, it has been found that more hammers just beat up materials. He cited the grinding of corn cobs as an example: Fewer hammers do a much better job.

"Much depends on what you are grinding," he said, pointing out that oats may require more hammers than corn and/or corn cobs.

The use of air fan and leg seems to be on the increase and is being developed to increase capacity.

The use of trip relays is also proving to be a minor but important development with today's increased production capacities, simply because if anything happens to interrupt the flow, the mill will be automatically cut off.

Operators should also be sure that smaller pipes do not affect the fan efficiency and cause clogging, he said.

On five-blade clusters, operators will find that blades are looser and easier to change quickly. In changing, they should be moved from end to end and then to center, he advised. It is also a good idea to get away from hammers tracing each other to avoid tracking the screen, it was pointed out.

In changing hammers, Mr. Olson urged operators to make such changes before complications develop due to excessive wear.

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(2) 5% sugar plus 2 lbs. PIG CALLER added	831
Lot #2 (Five sows, 45 pigs)	
Choice of two rations:	
(1) 5% sugar added	267
(2) 5% sugar plus 2 lbs. flavor added	683
Lot #3 (Five sows, 41 pigs)	
(1) 5% sugar plus 2 lbs. flavor added	320
(2) 5% sugar plus 2 lbs. PIG CALLER added	413
Weaned Pigs:	
(Test lot of 39 pigs from 5 sows)	
Choice of three rations:	
(1) Basic (no sugar, flavor or PIG CALLER)	113
(2) Basic plus 5% sugar added	306
(3) Basic plus 2 lbs. PIG CALLER added	408

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PELLET FEEDING SHEEP

. . . Possibilities Unlimited

By Dr. A. L. Pope
University of Wisconsin

The future of pellet feeding in Midwest sheep production looks very promising, Dr. Pope indicates. "There are problems still to be solved in this completely new and different system of sheep production, but the advantages are there to make the possibilities unlimited," he says.

Here, Dr. Pope analyzes the ewe and lamb system of production and reviews present problems of the industry and some recent studies which show how pellet feeding may help alleviate these problems.

Actually, the method of raising farm flock lambs has changed little in the past 25 years. Small flocks have been used to harvest pasture on land too rough to plow. Lambs are born in the spring and sold when the fall grass is gone. Internal parasites are still a problem and only the experienced sheepman who has the time to follow proper management practices has been truly successful. Hence, the industry has remained surprisingly static while vast changes have occurred in competitive industries.

The following is a list of problems that have plagued the farm flock producer during the first half of this century:

1. Insufficient volume: Average flock size in Wisconsin is 19 ewes.
2. Labor: While hourly returns can be good, sheep require constant care.
3. Seasonal variation in price — especially June to October.
4. Poor quality pasture and hay.
5. Parasites: Internal parasite control still requires drenching.
6. Disease: Antibiotics will help but have not been fed systematically.
7. Death loss from numerous causes.
8. Predator damage: No positive control for sheep on pasture.
9. Fly strike and slow gains in hot weather.
10. Difficult for beginners to overcome all these problems.

WHAT DOES A PELLET FEEDING PROGRAM INCLUDE?—A pellet feeding program normally involves only the lambs. Its possible use in feeding ewes will be discussed later. Lambs are self-fed a complete pelleted ration from birth to market in dry lot and without grass.

Gains that are possible with this system are amazing. Here are a few examples:

1. 104 lb. average at 120 days of age (12 lambs).
2. 102 lb. averages at 120 days (entire flock of 29 lambs).
3. 93 lb. average at 110 days (46 lambs).
4. 94.3 lb. average at 118 days (24 lambs, weighed after trucking, Madison to Milwaukee).

Lambs are normally marketed at 6-8 months of age. The average 120-day weight of 1,909 single lambs was 74.5 lb. and of 3,492 twins, 68.2 lb. in the Wisconsin Sheep Improvement Program last year. Even this would be far ahead of the state average.

WHAT RATIONS ARE BEST?—Table 1 shows a comparison of typical rations used for pellet feeding lambs in Wisconsin. Those fed in Lots 1 and 2 were developed at this station and have been compared to each other numerous times. The ration fed Lot 3 was used at the Ohio station, and is included here because it is a higher fiber ration.

The Lot 1 ration may be referred to as a "high energy" ration. It contains 11.8% digestible protein, 2.9% fat, 67.9% TDN and only 10.2% fiber. It is the most costly of the three rations.

The Lot 2 ration contains 40% hay instead of alfalfa leaf meal. It has 11.7% digestible protein, 2.6% fat, 62.2% TDN and 15% fiber.

The Lot 3 ration contains 65% hay and consequently has 12.5% digestible protein, 2.2% fat, 58% TDN and 21% fiber. This had the lowest price of the three rations.

Table 2 contains the values on lamb gain and feed efficiency resulting from these three rations. It is interesting to note that there is no significant difference in average daily gain. There is a difference in feed efficiency. The lambs in Lot 1 consuming the high energy ration were able to put on a pound of gain with 1.04 lb. less feed than the lambs in Lot 3. Actually, the Lot 1 ration that cost the most per pound produced the lowest gain cost. This emphasizes the importance of energy and high quality feed for these suckling ruminants.

Referring back to Table 1, it is unfortunate that the exact level of antibiotic or vitamin to recommend is not known at this time. The vitamin levels of the Lot 1 and 2 rations are high—one reason being that they are not the most expensive part of the ration. The antibiotic levels of these two rations can also be considered to be righ. One trial with antibiotic levels ranging from none to 100 gm. per ton of feed at this station indicated no difference in rate of gain. It should be pointed out, however, that lambs eat few pellets when they need protection against disease the most or at 2 to 4 weeks of age. There is no danger in feeding as much as 100 gm. of antibiotic per ton of feed through to market weight. The big disadvantage is the cost.

There is perhaps no one best ration considering economy of gain. It

TABLE 1. Pelleted Lamb Creep Rations (Percent)

Ingredients	Lot 1	Lot 2	Lot 3*
Alfalfa hay—second cutting		40	65
Dehydrated alfalfa meal	35		
Shelled corn	48	28	12
Oats		20	9
Soybean oil meal	10	10	10
Molasses	5	8	3
Steamed bone meal	1	1	1
Trace mineral salt	1	1	
Vitamin A—units/ton	5,000,000	5,000,000	5,000
Vitamin D—units/ton	625,000	625,000	500
Vitamin E—units/ton	10,000	10,000	
Aureomycin—gm./ton	50		15
Terramycin—gm./ton		50	
Cost/100 lb.	$3.92	$3.18	$2.80

*Ohio data.

TABLE 2. Lamb Gain Consumption and Feed Efficiency

	Lot 1	Lot 2	Lot 3*
Average daily gain, lb.	0.64	0.65	0.59
Creep feed/lb. gain	2.47	3.11	3.51
Creep feed cost/cwt. gain	$9.68	$9.88	$9.80

*Ohio data.

TABLE 3. Gestation Ration Composition and Nutrients Furnished (Percent)

	Lot No.					
	1	2	3	4	5	6
Alfalfa-brome hay*	100	100	100			
Alfalfa-brome hay†				100		
Dehydrated alfalfa meal					10	10
Oat straw						84.5
Corn cobs					83.3	
Soybean oil meal					6.7	5.5
Tri-basic sodium phosphate, lb./ton					30	
Ground limestone, lb./ton					6	20
Per cent total digestible nutrients	50.7	50.7	50.7	46.3	47.7	47.6
Per cent digestible protein	10.9	10.9	10.9	8.2	4.0	4.0

*A green, leafy alfalfa-brome hay of 15.5% crude protein.
†A bleached, stemmy, poor quality alfalfa-brome hay of 11.3% crude protein.

TABLE 4. Lactation Ration Composition and Nutrients Furnished (Percent)

	Lot No.					
	1	2	3	4	5	6
Alfalfa-brome hay*	75	100	100			
Alfalfa-brome hay†				100		
Dehydrated alfalfa meal					10	10
Oat straw						84.5
Corn cobs					83.3	
Soybean oil meal					6.7	5.5
13.5% protein grain mixture‡	25					
Ground limestone, lb./ton					6	20
Tri-basic sodium phosphate, lb./ton					30	
Per cent total digestible nutrients	56.0	50.7	50.7	46.3	47.7	47.6
Per cent digestible protein	10.7	10.9	10.9	8.2	4.0	4.0

*A green, leafy alfalfa-brome hay of 15.5% crude protein.
†A bleached, stemmy, poor quality alfalfa-brome hay of 11.3% crude protein.
‡Consisted of seven parts by weight of corn, one of oats, one of soybean oil meal and one of wheat bran.

EDITOR'S NOTE: *Dr. A. L. Pope of the University of Wisconsin's department of animal husbandry presented the information included in this article as a talk at the recent Wisconsin Nutrition School on the university campus.*

TABLE 5. Daily Feed Intake and Nutrients Consumed (Pounds)

	Lot No. 1 Hand fed	2 Good hay pelleted	3 Limited fed pellets	4 Poor hay pelleted	5 Pelleted corn cobs	6 Pelleted oat straw
Feed consumed—gestation lb. per ewe per day	4.5	5.7	4.7	6.6	4.2	5.3
Nutrients consumed:						
Total digestible nutrients	2.28	2.89	2.38	3.06	2.14	2.53
Digestible protein	.49	.62	.51	.54	.18	.21
Feed consumed—lactation lb. per ewe per day (56 days)	6.0	8.6	6.2	6.8	6.9	6.5
Nutrients consumed:						
Total digestible nutrients	3.36	4.36	3.14	3.15	3.28	3.10
Digestible protein	.64	.94	.68	.56	.28	.26

TABLE 6. Lamb Production

	Lot No. 1 Hand fed	2 Good hay pelleted	3 Limited fed pellets	4 Poor hay pelleted	5 Pelleted corn cobs	6 Pelleted oat straw
Number of ewes	14	17	9	8	16	17
Number lambs raised	18	22	10	9	21	20
Average birth weight, lb.						
Singles	11.2	10.4	11.1	10.4	10.5	9.7
Twins	8.1	8.9	8.9	9.0	8.6	8.8
Average lamb gain, lb.						
Birth to 14 days	5.9	8.4	5.0	6.3	6.0	7.3
Birth to 28 days	14.3	16.9	14.0	17.3	13.0	16.8
Birth to 56 days	32.4	35.4	32.0	31.3	32.0	36.8
Creep feed consumed						
Lb./lamb	62.0	48.5	62.0	62.0	66.5	66.0
Lb./lamb/day	1.11	0.87	1.10	1.10	1.19	1.18
Lb./lb. lamb gain	1.92	1.38	1.93	1.96	2.07	1.84

does seem, however, that the rations used in Lots 1 and 3 represent the two extremes with regard to energy, protein and fiber. It is our recommendation that pelleted rations for suckling lambs contain the following:

Not less than 11.5% digestible protein.
Not less than 60.0% TDN.
Not more than 20.0% fiber.
A nutritive ratio between 1:3.5 and 1:4.5.

(Continued on next page)

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Not less than 50 gm. of antibiotic per ton of feed.

A number of feed companies have lamb pellets on the market and their use by sheep farmers has increased markedly in the past two years. This is especially true in areas where home-grown feed cannot be pelleted. But it is our observation that these commercial pellets are meeting with only fair success in the type of program described here. They are not producing the feed efficiency of the above rations and in many cases are prepared for fattening feeder lambs instead of suckling lambs. This confined method of raising lambs will not expand if the composition of these pellets is not improved. The cost of these pellets is high compared to present lamb prices and they must produce results.

It is suggested that more energy in the form of corn, for example, be added to the ration. This should probably be done at the expense of by-product feeds. The protein and antibiotic levels are too low in many commercial pellets and should be increased to the above suggested standards.

PITFALLS OF PELLET FEEDING LAMBS—There are four important steps to follow if a feeder is to go on this program:

1. He must go all the way from birth to market on pellets.

2. The lambs must be born by March 15 to be sold on early market.

3. Lambs must be marketed between 90-95 lb. Feed efficiency is poor beyond this weight.

4. Ewe feed must be saved by not feeding any grain after two months of lactation.

SELF-FEEDING PELLETS TO EWES—Tables 3-6 show results of pellet feeding ewes during the winter feeding period. The chief problem here is to prevent the ewes from eating too much and thus becoming too fat. This is true even on pelleted hay with no grain even during lactation.

Table 3 shows six rations used during gestation. The Lot 1 ration was long hay, hand-fed. The other five rations were made into 3/16 in. pellets. The Lot 2 ewes were fed hay pellets ad libitum. The Lot 3 ewes were fed the same pellets but limited-fed by allowing them access to the feeder on alternate 24-hour periods.

The rations fed during lactation are shown in Table 4. The only change from the gestation rations occurred in Lot 1 where a 13.5% grain mixture was added to the long hay. The ewes in this lot then received 4.5 lb. hay and 1.5 lb. of grain per head daily. This is the normal feeding program for milking ewes. The rations fed in Lots 5 and 6 were balanced with respect to calcium and phosphorus content.

Daily Feed Intake

The daily feed intake and nutrients consumed are shown in Table 5. During gestation, ewes weighing approximately 160 lb. such as these should receive 0.20 lb. digestible protein and 2.5 lb. of TDN daily. With the exception of TDN in Lots 1, 3 and 5 and digestible protein in Lot 5, these ewes consumed the required amount.

The requirements for 140-lb. lactating ewes are 0.25 lb. digestible protein and 3.1 lb. TDN daily. All ewes consumed at least these amounts.

Lamb Production

Table 6 contains the lamb production data of these ewes. There was

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no difference in birth weight of the lambs or in lamb growth to 8 weeks of age. There was little difference in creep feed consumption except in Lot 2, which was less. This could indicate that these ewes were milking more than the other groups.

"What Did It Cost?"

It can be concluded from these trials that there was very little difference in the performance of ewes fed these six different rations. The big question then is, "What did it cost?"

The following prices were used:

Lot 1: Long hay, average to good quality, $16 ton.

Lot 2: Same hay pelleted, $26 ton.

Lot 3: Same hay pelleted, $26 ton.

Lot 4: Poor hay pelleted, $22 ton.

Lot 5: Corn cobs at $5 ton; complete ration, $27 ton.

Lot 6: Oat straw at $12 ton; complete ration, $31 ton.

Some additional assumptions were made in order to apply these data to farm conditions (see Table 7).

A maximum 180-day feeding period from Nov. 15 to May 15 with an average lambing date of Feb. 15 was used. Based on the feed consumption in this trial, the total ewe winter feed costs are shown in the first column of Table 7. The cost of creep feeding 1¼ lamb to market weight based on creep feed consumption in this experiment is added on to the ewe feed cost in the second column. The third column shows the total value of 10 lb. of wool at 60¢ lb. and 1¼ lamb (120 lb.) at this year's 18¢ lamb market.

It should be emphasized that the value of wool and lamb in Table 7 is figured conservatively. For instance, 1¼ lamb per ewe is about average for the entire state. Many farmers obtain 1½ lamb per ewe. An 18¢ lamb market in June is the lowest since 1946. The average June price of fat lambs for the past 15

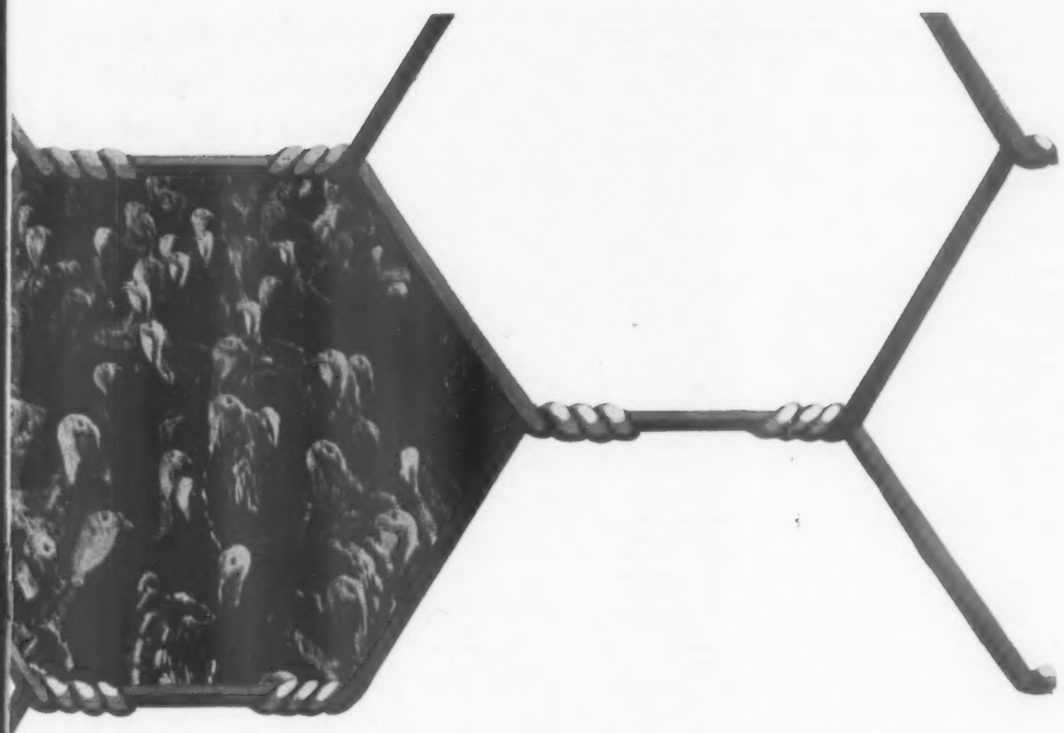

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TABLE 7. Data Applied to Farm Conditions

Lot No.	Ewe feed cost	Ewe plus 1¼ lamb feed cost	Value of wool and 1¼ lamb	Difference
1. Long hay	$10.58	$17.78	$27.60	$9.82
2. Pelleted hay	16.73	22.29	27.60	5.31
3. Limited pelleted hay	12.75	19.90	27.60	7.70
4. Poor hay pellets	13.26	20.41	27.60	7.19
5. Pelleted corn cobs	14.34	21.93	27.60	5.67
6. Pelleted straw	15.49	23.13	27.60	4.47

years has been 25.4¢. If a 1¼ lamb at 25.4¢ is substituted for the above values, the differences between feed cost and income are changed considerably. The difference in Lot 3, for example, is $21.25 instead of $7.70 per ewe, or nearly three times as great.

SUMMARY—In conclusion, let us return to the 10 important problems facing the sheep industry at the present time. What can a complete pellet feeding program of both ewes and lambs do towards solving these problems?

1. Volume: 500 ewes can be handled with approximately the same labor requirement of 100 ewes in the past.

2. Labor: Sheep are fed once weekly when feeder is filled. The Sutter Basin Corp. of California has one man handling 95,000 lambs with pellet feeding.

3. Price variation: Pellet-fed lambs are sold on highest market.

4. Poor quality pasture: A necessity to keep dry ewes from becoming too fat.

5. Parasites are not a problem; lambs never drenched.

6. Disease: Antibiotics are fed systematically.

7. Death loss: Lambs are kept only half as long—this means lower death loss.

8. Predator damage: Lambs are confined and this danger is lessened.

9. Fly strike and slow summer gains: Lambs are sold before this trouble period.

10. Difficult for beginners: All beginners must do is keep feeders full.

There are many problems still to be solved in this completely new and different system of sheep production. But the advantages are there—nutritionally and economically—to make the possibilities unlimited.

Farm Feed Grain Stocks Up

WASHINGTON — Stocks of feed grains on farms were 2% higher Oct. 1 than a year ago, according to the U.S. Department of Agriculture.

USDA said farm stored corn was second highest on record, while farmers held a record quantity of sorghum grain. Decreases in barley and oats stored did not offset the higher corn and sorghum holdings. Wheat stored on farms was 17% less than last year and 6% below average. Soybeans were less than half of the Oct. 1, 1960 total. Flaxseed stocks were lowest since records started in 1947.

Corn stocks totaled 569 million bushels for the nation, compared to the record level for farm stored corn of 696 million bushels set in 1949.

Grain Stocks on Farms Oct. 1

Crop	Average, 1950-59 %*	Average, 1950-59 1,000 bu.	1960 %*	1960 1,000 bu.	1961 %*	1961 1,000 bu.
Corn for grain†	11.4	335,356	11.8	451,965	14.6	569,002
Wheat	44.1	481,706	40.5	546,855	37.5	454,139
Oats	81.4	1,047,091	83.2	957,626	85.0	844,378
Barley	62.5	221,417	65.8	280,975	61.0	232,180
Rye	56.7	13,586	54.8	17,817	53.1	13,739
Flaxseed	52.8	19,316	41.3	12,564	39.1	8,374
Sorghum grain†	2.9	7,319	4.1	22,724	5.1	31,219
Soybeans†	1.0	4,102	.6	3,404	.3	1,635

*Per cent of previous year's crop. †Old crop.

Will Bulls Replace Steers in Feedlot? That's Talk Abroad

LINCOLN, NEB. — A prediction going around foreign livestock circles says that within 10 years there will be no steers raised for beef. Instead, it's said, young bulls will take their place in the feedlot.

The forecast is only one of several intriguing insights into European animal production gained by Dr. Robert Koch, chairman of the University of Nebraska department of animal husbandry, at a recent scientific short course in Hannover, West Germany, followed by a tour of research farms and stations in several countries. Dr. Koch met and talked with the top animal breeding scientists during the school, attended by two representatives from the U.S.

The school included 36 young animal scientists from 16 countries, all NATO nations except Yugoslavia, though Iron Curtain countries had been invited to the school, which covered problems of recording systems and breeding plans of domestic animals.

Dr. Koch said the swing to the use of bulls for beef fattening is tied to another unmistakable trend observed throughout European countries he visited—the development of a distinct aversion for fat, or, to put it positively, a demand for more lean meat.

This trend crystallized later in Europe than in the U.S., but for the same basic reasons, the university administrator believes. A drop in the emphasis on manual labor and resulting curtailment in caloric needs, and an increase in disposable income have caused a shift in consumer demand toward lean meat.

Less Fat

Bulls provide at least a partial answer to this demand because their carcasses have less fat, and, at the same time, bulls have greater efficiency of feed conversion, he noted.

However, Dr. Koch stressed that different conditions surrounding the raising and feeding of cattle in Europe make this and other practices feasible, whereas some would not fit in American livestock rearing and feeding systems. Many of the young bulls are stall-fed on farms which seldom exceed 30-40 acres and sup-

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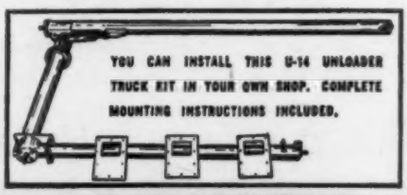

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port small herds of cattle by American standards, he explained.

"I was somewhat surprised to find in Scotland, the home of some of our top beef breeds, that there is practically no beef cattle industry," he observed. There is some beef breeding carried out on Scottish farms, but mainly for the sale of bulls for export or for siring beef calves from dairy herds.

Nearly all cattle are dual purpose in European countries, with France being a notable exception. Here he found excellent quality Charolais cattle being raised for beef purposes. The French are generally interested only in the hind quarters for domestic consumption, exporting the front quarters to Holland and other countries to be ground up in sausage.

Even in Germany, where 50-60% of all meat consumed is in the form of sausage, there is a definite trend toward less fat, Dr. Koch indicated.

"Europeans don't observe as big a price differential on different cuts or between varying qualities of meat as do American consumers. One of the principal reasons for this may lie in the different methods of cooking," Dr. Koch said.

He found in nearly all European countries that the use of breeding stock is much more strictly controlled by breed associations and government regulatory agencies than in the U.S.

In Denmark, the Nebraskan found a classic example of animals bred to fit a specific market situation: Some 95% of the swine herds in the Scandinavian country are Danish Landrace, described by Dr. Koch as "the longest hogs I have ever seen."

Danish pork supplies a large English market, and proves the point that animals can be bred to meet a definite objective when accurate records of performance are utilized, he declared.

Other Impressions

Some other impressions which Dr. Koch tabs as significant in relation to American livestock industry ideals and practices:

—Dairy animals generally had better muscling—"a lot of natural fleshiness"—not often found on typical American stock. He lauded such characteristics as "heavy-boned straight legs; level rump and good width between the pins" on continental dairy cattle.

—The average feed conversion recorded on swine going through Danish testing stations is 2.9 lb. of feed per pound of gain, considered excellent when compared to American figures. Danish swine breeding centers must have their swine tested in order to remain in good standing with swine associations.

—Restricted, rather than "ad lib" or unrestricted feeding is practiced by most swine raisers. The animal is offered what it will clean up in about 20-30 minutes time at two regular daily feeding periods, but does not have access to feed at other times.

—In one breeding area of Germany, 70% of the purebred dairy cows are under test similar to the DHIA program in the U.S. But 80-90% of the animals are in herds under 15 head. There is little centralization of herd numbers and a "surprising" amount of milking is still done by hand.

The Nebraska researcher praised the industrious West Germans who are now producing food for 56 million people on the same land area that once supported only 33 million. "This is being done on land once considered unfit for intensive cultivation," he added. However, Dr. Koch noted that there is less complete mechanization in German agriculture than the U.S., although the Bonn regime has emerged as an industrial giant in western Europe. He found agricultural researchers generally doing more intensive and detailed research than in the U.S. But, it appeared in many instances, particularly in the British Isles, that scientists were not in as close touch with farmers as in the U.S., Dr. Koch said.

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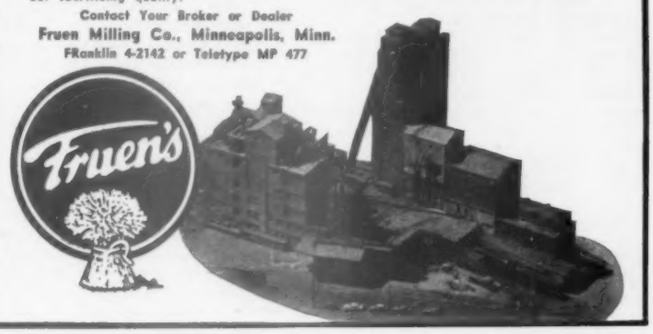

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Tell of Food and Drug Administration Inspections, Hearing

DES MOINES, IOWA — Western Grain and Feed Assn. of Iowa, in a recent bulletin to members, told of U.S. Food and Drug Administration inspections of members of the Northwest Retail Feed Assn.

According to the bulletin, seven members of the Northwest association had been inspected by the Food and Drug Administration and, of the seven, two had been cited to appear at the Minneapolis office for violations of one kind or another.

An account of one of the hearings was related in the Northwest bulletin:

"We recently sat in on one of these hearings in which the violation consisted of substituting one drug for another without changing the tags or labels. F&D was not concerned with the switching of the drugs, but made an issue on the matter of the tag. This, they held, was false labeling and misleading to the farmer on what was in the bag.

"The hearing was held at the federal bulding in Minneapolis. The hearing officer held a copy of the inspector's report, together with other material information which F&D had gathered from one or more sources. He went through the inspection report and requested the defendant to make any comments or defense that seemed proper. These statements by the defendant were noted down. Then, when all statements had been completed, a stenographer was called in and a report drafted. The report was then read back to the defendant, and he was asked if it was in proper order, if he objected to any item, or if he wished to add to it.

"The report (and presumably the inspector's statements or a copy of it) will now be sent on to F&D headquarters in Washington. Washington will review the matter, and may act in one of two ways. It may issue a cease and desist order which will relieve the defendant of further legal action provided he ceases his illegal acts, or, it may turn the matter over to the Department of Justice for civil and/or criminal action.

"The hearing officer was most polite and took as much as possible a disinterested viewpoint. He explained various points of the F&D laws and their application as to why certain things must be done. However, he did examine all points on the tags or labels very carefully and even brought up the matter of an .0055% in comparison with an .0056%. On question as to what action might be taken against the defendant he said an answer would be forthcoming in from 30-45 days. He also said that, according to F&D rules, he would not make any statements as to his beliefs in the case unless his superior officers requested such a statement. His sole duty is to gather the facts and turn them over to the Washington people.

"In case of further citations for hearings, it seems that the proper step for the defending firm is to go over the matter with its attorney and, if possible, have him accompany them to the hearing. While the hearing is rather informal, it should be noted that the hearing officer didn't miss a trick."

Representative Named

DENVER—Seven Oaks-West, Inc., formerly Pat Nash Supply Co., Portland, Ore., has been appointed representative in British Columbia, Washington and Oregon for Robbins Incubator Co., Denver, according to B. L. Rosenberg, president of Robbins. Seven Oats-West's general manager is Charles E. Taylor.

A sharp looking city slicker hopped off a streamliner train in a small western town and walked up to the old station master.

"Hey—I don't see much action around here. This town must have been dead a long time."

"Not too long," sighed the station master. "You're the first buzzard we've seen."

◆ ◆ ◆

A Texan had a small farm with just a few sheep. One day his wife while dyeing some bedspreads blue had a little lamb fall into the bucket of dye. A passing motorist saw the lamb with the blue fleece and bought it for $50. So the Texan figured he had a good thing going and colored more lambs which brought big profits.

"Pretty soon," he recalled, "I was coloring them pink, blue, yellow, green, lavender and you know—now I'm the biggest lamb dyer in Texas."

◆ ◆ ◆

The old mountaineer was sitting in his favorite cane-backed rocker on the porch of his cabin, slowly rocking east and west. Nearby sat his 42-year-old son, rocking north and south.

"Son," drawled the old man, "it's about time you learned not t'wear yersef out thataway. Rock the way the board runs, and save yer stren'th."

◆ ◆ ◆

Motorist: "I'm sorry I ran over your hen. Would you settle for two dollars?"

Farmer: "Nope. Four dollars. Got a rooster who was mighty fond of that hen. Might die of the shock."

◆ ◆ ◆

"Is there any legend about that mountain?" asked the tourist of a native.

"Yep," was the reply. "Two lovers once went up the mountain and never came back again."

"Is that so? And what happened to them?" the tourist asked, breathlessly.

"Went down t'other side."

◆ ◆ ◆

A young student from agriculture college was in conversation with an old farmer.

"Do you know," said the young one, "that your farming methods are so far behind the times that I'd be surprised if you got $50 worth of oats out of this field?"

"So would I," was the farmer's reply. "It's barley."

◆ ◆ ◆

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SPEAKER

(Continued from page 11)

the very life of the industry. Yet the industry cannot die because good protein nutrition for a growing population requires an increasing amount of poultry to meet the ever increasing demands," he said.

The technology of processing has been improved as has production, resulting in overproduction, while the number of retail outlets through which poultry is being sold has been reduced, from 450,000 in 1940 to less than 50,000 in 1960.

"In fact, 29,000 outlets account for more than 85% of the volume," he said.

Meanwhile, prices have dropped to an average of 16.9¢ in 1960 from 28.8¢ in 1952.

The industry has brought about improved breeding which has produced an improved stock, nutrition methods have resulted in greater gains in poundage and processing technology has produced high levels of efficiency.

"In addition, the following facts, while not so obvious, appear to be equally true. There has been a consistent overproduction of poultry greater than the annual volume gains in consumption. There have been changes in the marketing process which have not been either appreciated or fully understood. There has been a lack of consistency in profitability which seems to be a function of two factors: Uncontrolled overproduction and uncontrolled marketing," he said.

Unless these two causes (overproduction and uncontrolled marketing) are critically examined and systematically corrected there can be little hope that the poultry industry will be sufficiently profitable to attract the capital necessary for its operations, or to continue to carry out the technological research which might be expected to lay the groundwork for improved marketing process, Dr. Stevens said.

"Inevitably, unprofitability will, at a very great economic cost, produce its own restrictions on production volume. Even as this occurs, there is absolutely no guarantee that prices will improve unless better marketing is achieved," he added.

Need Customer Concern

"With all due respect to the industry, it has not been concerned about the customer at all," he said in pointing out that emphasis has been placed on production rather than creating a desire on the part of the customer for the product.

One of the big hazards of the industry has been primary distribution.

"Just let one large area over produce and, in 48 hours, it can break the market wide open," he said, pointing to a recent price break in one of the southern states which quickly affected market prices all the way to Maine.

The industry must start thinking more in terms of the customer and less in the vein of production. The housewife must be educated regarding frozen poultry.

"As long as the majority of broiler production is sold in a refrigerated rather than in a frozen state, the industry will be in jeopardy because of crisis pricing due to overproduction in certain areas, which will have the tendency of affecting the market in all other areas.

"The American housewife is rightfully dissatisfied with the taste and texture quality of much of the frozen poultry which comes on the market. While research has been carried on directed toward the improvement of the frozen product, much still needs to be done before we can reasonably expect an important change to occur in the balance between refrigerated and frozen volume. While it would be most incorrect to place undue emphasis on the frozen product with its more extended shelf life as the major cure-all for the problem, it is nonetheless important enough to become an issue," he said.

A brand franchise for broilers was suggested whereby the housewife would know she is getting top quality, backed by promotion and better packaging, which is also called for, he said.

"Strong merchandising and sales promotion support of poultry sales are practically unknown, and this can be had through the franchise plan of brand identity."

Dr. Stevens pleaded with his audience not to be discouraged over present conditions, pointing out that the broiler industry is in its adolescent period.

"My suggestion is not to be discouraged, but do the things that need to be done. The dilemma is temporary. Never has the broiler industry been on the verge of profitability as it is today. In spite of the darkness the present future is full of cheer," he concluded.

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a reminder about feed tag registration

Now is the time to register your feed tags for the coming year. You'll want to check your label to make certain all the ingredients are listed. If you are planning to use Santoquin® in your feeds any time next year, you'll want the ingredients portion of your tag to read *"ethoxyquin a preservative."*

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Names in the News

DR. KENNETH E. HAMLIN NAMED DIRECTOR OF RESEARCH AT ABBOTT LABORATORIES—Dr. Kenneth E. Hamlin has been appointed director of research at Abbott Laboratories, it has been announced by Dr. Arthur W. Weston, vice president in charge of research and development.

Dr. Hamlin will be responsible for coordinating all basic research functions, including microbiologic research, experimental therapy, chemical research, and agricultural and veterinary research.

Dr. Hamlin joined Abbott in 1943 as a research chemist. In 1945 he became a group leader, in 1955 assistant head of organic research, and, in 1956, head of organic research. In 1957 he was appointed assistant director of chemical research and in 1959 he was named director of chemical research.

SWIFT & CO. NAMES JAMES TAPPE SOYBEAN OIL MILL SALES MANAGER—James P. Tappe has been named meal sales manager at Swift & Co.'s soybean oil mill at Des Moines, Iowa, according to H. F. Lester, manager. He succeeds John Bramfeld, Jr., who has been transferred to Chicago as assistant to vice president C. T. Prindeville.

Mr. Tappe, a native of Farina, Ill., is a graduate of the University of Illinois. He has been with Swift in Des Moines since 1957.

GEORGE J. HUTZLER TO DIRECT SPENCER KELLOGG RESEARCH CENTER—Appointment of George J. Hutzler as director, Spencer Kellogg Research Center, has been announced by the Spencer Kellogg division of Textron, Inc.

George J. Hutzler

Mr. Hutzler, formerly manager of engineering research for the Buffalo firm, is a graduate of Columbia University with an AB degree in general studies and a MS degree in chemical engineering. Before coming to Spencer Kellogg in 1955, he was a research supervisor with the Rohm & Haas Co. in Philadelphia.

The appointment of Mr. Hutzler to the new position is another step in the recently announced program of greater emphasis on research and new product development by Spencer Kellogg. The Spencer Kellogg division comprises the new agrochemical products group of Textron, Inc., Providence, R.I.

R. B. THOMAS, JR., NAMED MANAGER—R. B. Thomas, Jr., has been named national sales manager of National Remedy Products Co., according to W. P. Scott, president.

Mr. Thomas now lives in Dallas, Texas, but expects to move soon to Springfield, Mo., where Naremco's general offices are located.

R. B. Thomas, Jr. Richard N. Heber

A graduate of Texas A&M, with a bachelor's degree in agriculture and a master's degree in education, Mr. Thomas was in high school vocational agriculture teaching from 1942 to 1953, served as territory sales and merchandising manager in Texas for Ralston Purina from 1953 to 1956, has been director of education and public relations for Western Hatcheries, Dallas, Texas, since 1956.

RICHARD N. HEBER APPOINTED BY PHILIP R. PARK, INC.—Richard N. Heber, Minneapolis, who has been in the feed supplement field for nearly 20 years, has been named territorial sales representative for Philip R. Park, Inc., of San Pedro, Cal., manufacturer of ManAmar "sea powdered" supplements.

Mr. Heber's territory will cover Minnesota, eastern South Dakota and western Wisconsin. In Minnesota, he will work with Maney Bros. Mill & Elevator Co., Inc., distributor for the past 25 years of ManAmar products in that state.

In addition to handling ManAmar products, Mr. Heber will help introduce the ManAtronics Feed Formulation Service, an electronic computing service developed by Dr. Michael J. Walsh, president of Philip R. Park, Inc.

ManAmar products have been produced by Philip R. Park, Inc., for the last 35 years from a base of sea kelp which it harvests and processes at its San Pedro facilities.

DR. T. H. BLOSSER APPOINTED WASHINGTON DAIRY SCIENCE CHAIRMAN—Dr. T. H. Blosser, Washington State University professor, has been named chairman of the dairy science department of the university.

Dr. T. H. Blosser

Dr. Blosser succeeds Dr. A. O. Shaw, who has resigned to become a faculty member of a new university at Lyallpur, Pakistan, which is being set up under WSU guidance.

Dr. Blosser has been a member of the WSU faculty since 1948. His research work has been in the fields of animal diseases and nutrition.

The new dairy science department chairman is a native of Indiana. He received his bachelor's degree from Purdue University and his master's and doctor's degrees at the University of Wisconsin.

E. R. TOMME TO MANAGE SWIFT & CO. TEXAS OIL MILL—E. R. Tomme has been named manager of Swift & Co.'s oil mill at Waco, Texas. He succeeds the late John H. Williams, who had been manager at Waco since 1957.

Most recently, Mr. Tomme has been manager of Swift's oil mill at Albany, Ga.

The new manager at Albany is C. P. Wylie, who had been territory manager for the Albany mill since 1955.

TRIPLE "F" FEEDS NAMES SALES MANAGERS—Triple "F" Feeds, Des Moines, Iowa, a newly-formed firm, has appointed sales representatives who will be in charge of hiring and supervising sales per-

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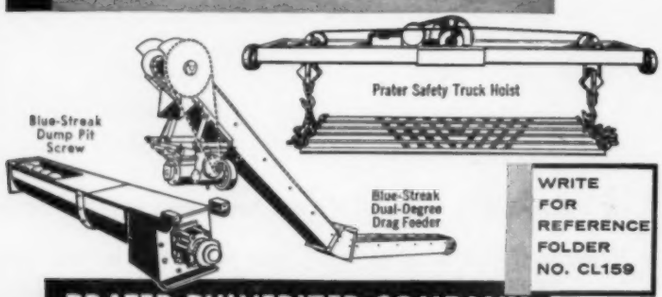

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Kenneth L. Ness

Robert Neumeyer

Hubert Sines

George Martens

sonnel in their assigned areas, according to J. Kenneth Lepley, director of sales.

Among those assigned were the following five men for Iowa sales territories: Hubert Sines, Centerville, central Iowa; Kenneth L. Ness, Mason City, north central Iowa; Robert Neumeyer, Tipton, eastern Iowa; Edwin L. Piper, Des Moines, western Iowa, and George Martens, Mitchell, S.D., northwest Iowa and South Dakota. Mr. Piper is also field sales manager of the firm (Feedstuffs, Oct. 21).

All of the men were formerly with Foxbilt Feeds.

GORDON McKINNEY NAMED TO FARMCRAFT POST—Gordon L. McKinney has been appointed production and distribution manager of Farmcraft, Inc., Des Moines, manufacturer of feed concentrates, additives and organic fertilizers. Mr. McKinney, former manager of Honeggers' & Co. operations at Lincoln, Neb., has been in the feed business 22 years.

NEW BEMIS ASSIGNMENTS FOR THREE—Lyman H. Goff, Jr., manager of the Norfolk, Va., bag plant and sales division of Bemis Bro. Bag Co., has been assigned to the company's allied operations staff, and will direct paper specialty and polyethylene bag activities, the company announced.

L. H. Goff

Bemis allied operations, which comprise the company's Visinet Mill, paper specialty and plastic packaging plants, packaging machinery, and Tekmold facilities, is under the direction of F. G. Bemis, Jr., vice president.

In related new assignments, R. W. Lahey, Jr., succeeded Mr. Goff as manager of the Norfolk plant and sales division, and R. J. Boher became sales manager of the Norfolk sales division. Mr. Lahey previously was sales manager and Mr. Boher a salesman with the sales division there. Mr. Goff is headquartered in Minneapolis in his new assignment.

R. W. Lahey

R. J. Boher

SPICE APPOINTS CHARLES S. PERKINS EXECUTIVE SECRETARY—Charles S. Perkins has been appointed executive secretary of the New York State Poultry Industry Coordinated Effort, according to Ralph H. Webster, president of SPICE. The organization was formed in January to promote all phases of poultry and allied industries toward greater future profits in New York state. Mr. Perkins will headquarter at Cornell University, Ithaca.

Charles S. Perkins

Mr. Perkins is a 1951 agricultural graduate of the University of Maine. He has worked for two large feed organizations in the middle Atlantic states for several years.

WALLACE GORDON SUCCEEDS CLARK DAVIS IN DU PONT POST—Wallace E. Gordon, assistant general manager of du Pont's industrial and biochemicals department, has been appointed general manager, succeeding Clark W. Davis, who will retire after more than 44 years with du Pont.

Benjamin F. Schlimme, planning manager of the department, has been named assistant general manager to succeed Mr. Gordon. The industrial and biochemicals department produces the company's agricultural chemicals, anti-freeze and a broad line of industrial chemicals.

VAL-E-PEP NAMES DOUG BELL TEXAS SALES REPRESENTATIVE—Doug Bell, a native of Palestine, Texas, has been appointed sales representative for Val-E-Pep Dog Food in Texas, it was announced by Harry R. Gillespie, sales manager of Valley Mills. Mr. Bell has several years of experience in the promotion and sale of dog food. He will continue to make his headquarters in Palestine, and will cover the eastern half of Texas.

Doug Bell

MRS. CLIFFORD FLORANCE HONORED BY VIT-A-WAY—Mrs. Clifford Florance, Ft. Worth, Texas, was honored for 20 years service with Vit-A-Way, Inc. She was employed by the company in September, 1941, and has served as executive secretary to Leo Potishman, president. In the

FMC BULK'N'AIRE

the original aluminum pneumatic bulk unit

FMC's aluminum bulk body has been field-proved by 14 years' service with feed dealers throughout the country. Mated three years ago with a new concept in pneumatic unloading and tested under all operating conditions, the FMC BULK'N'AIRE is the finest pneumatic unit anywhere. The TGP (paddle conveyor) is designed for predominantly poultry and dry or pelleted dairy feeds . . . with the TBP (belt conveyor) also able to handle dairy feeds which present more difficult unloading problems.

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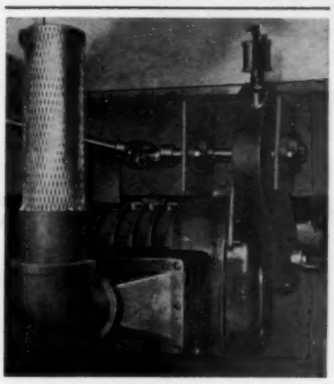
2. Tank compartments sized to meet delivery requirements of your operation.
3. Wide sack decks running full length on both sides of tank, will carry 1400 lbs. of sacked material.
4. Furnished with legal lights, mud flaps, rear direction signals, rear bumper and suitable PTO. Three 10 ft. lengths of flexible hose, with quick connect couplings.
5. Throttle and waterproof tachometer mounted at tank rear with air pressure gauge.
6. Extra large loading hatches with leak-proof slide-opening doors and quick release latches.
7. Slip proof expanded metal catwalk for all-weather safety; full length rear ladder with top hand rails.

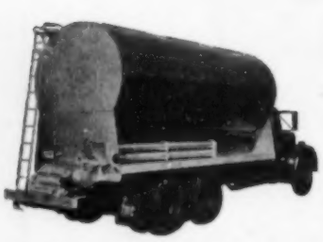


FOR BOTH TGP AND TBP MODELS AN EFFICIENT, LIGHT-WEIGHT BLOWER UNIT

This rugged, light-weight blower is mounted on truck frame for rigidity and direct PTO drive. The entire blower and conveyor system is powered from a single PTO through exclusively mechanical drives (no hydraulics).

An overload slip clutch protects airlock and drives. The inlet filter-muffler for the blower gives quieter operation.

FMC also makes "freight allowed" delivery to most addresses. Service and mounting facilities available at such points as Ft. Wayne, Ind.; Buffalo, N.Y.; Hagerstown, Md.; Lewiston, Me.; Charlotte, N. C.; Portland, Ore.; Denver, Colo.; etc. Check with us for your local facility.



THE TBP MODEL OFFERS:

1. Streamlined aluminum body; high capacity.
2. Rugged 24" belt conveyor (slider bed), designed for self-cleaning and restriction of feed access to belt underside. No feed build-up in front end or keel bottom.
3. Double sliding gates in each compartment, separating at belt centerline to 16" wide opening; enables easy shut-off or metering of feed to belt. No specific compartment must be unloaded first.
4. All gate and drive system controls grouped with airlock at tank rear for complete single-point operation.

THE TGP MODEL OFFERS:

1. High capacity aluminum body.
2. Rear center discharge from airlock feeder.
3. Virtually 100% body and conveyor system cleanout.
4. Absolutely no feed leakage.
5. Exclusive paddle conveyor efficiently handles pellets without damage.
6. Knife-action single sliding gate in each compartment permits metering or full cutoff of feed flow, enables unloading compartments in any sequence.
7. Tank-top and ground-level gate controls provide convenience in operation.

FMC's BULK'N'AIRE with its light, rugged construction and all-mechanical design is your answer to maximum legal payloads with least ton/mile costs. In the long run, FMC BULK SYSTEMS COST LESS — BECAUSE THEY DO MORE, LAST LONGER!

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accompanying picture, Mr. Potishman is presenting Mrs. Florance with a gold pendant necklace set with diamonds on behalf of the company.

PILLSBURY NAMES ROBERT BREWER FIELD POULTRY SPECIALIST—The appointment of Robert Brewer as field poultry specialist has been announced by Clarence Bell, operations manager for the southeastern region of the Pillsbury Co.'s feed division.

Robert Brewer

Mr. Brewer is a graduate of Auburn University where he received his bachelor's degree and master's degree. He was engaged in extension and research positions while attending Auburn University.

He will assist poultrymen in north Alabama in management and disease control problems.

VERNON FIKE APPOINTED DISTRICT SALES MANAGER FOR MOORMAN CO.—Vernon Fike has been named district sales manager for Moorman Manufacturing Co., Quincy, Ill., livestock feed company. His district will be Isabella, Saginaw, Tuscola and parts of Midland and Huron counties in Michigan.

RAY TONGATE JOINS SIMONSEN CO. AS SALES MANAGER—Ray Tongate has been appointed sales manager of Simonsen Manufacturing Co., Quimby, Iowa, according to Merle Simonsen, general manager. The Simonsen organization makes truck bodies for bulk feed delivery and bulk fertilizer spreading, plus compact pull-type fertilizer spreaders. Mr. Tongate resides in Storm Lake, Iowa, and has had nearly 20 years of sales experience in the north central states area. He was formerly associated with the Carey Salt Co., Hutchinson, Kansas, as agricultural products manager, and also served as sales engineer of their Omaha division. According to Mr. Simonsen, distribution of the company's products is continuing to grow at a national level.

Ray Tongate

ST. REGIS BAG DIVISION REORGANIZES MARKETING GROUP—The bag division of St. Regis Paper Co. has reorganized its marketing group, it was announced by Bernard W. Recknage, vice president and general manager of the division. The reorganization includes two major staff promotions and the appointment of individual product managers for the agricultural, chemical, food and rock products industries — the main commodity groups to which the division supplies multiwall and textile bags and packaging equipment.

John T. Walton, who has been associated with the bag packaging industry the past 15 years, and has been manager of marketing services for the division the past two years, has been appointed division sales director.

Alfred A. Roetzer will succeed Mr. Walton as manager of marketing services. Mr. Roetzer has been associated with St. Regis the past 14 years.

John H. Dively has been appointed agricultural products packaging manager. He joined St. Regis in 1945 and has held various positions in packaging services management since that date, specializing in fertilizer, feed and insecticide systems.

Arthur P. Simard has been appointed food products packaging manager; Carl W. Olson has been appointed chemical products packaging manager, and John F. Gruber has been named rock products packaging manager.

You Get More Value At Low Cost with CK

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The Premiums with Econolass are FAIR PRICES CONSTANT TOP QUALITY and FAST, EFFICIENT SERVICE on orders.

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And you can't buy a better blackstrap molasses feed ingredient than CK Econolass. It's delivered in convenient 50-lb. moisture resistant bags, and it mixes easily as it adds palatability to your feeds.

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Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 25¢ per word; minimum charge $3.75. Situations wanted, 20¢ a word; $3.00 minimum. In figuring cost of your classified ad . . . each word, abbreviation, telephone exchange and number, set of initials, or group of figures counts as a word. To the number of words in your want ad itself add six (6) words for your name and address or name and address of your firm. This applies for both direct-reply ads and for blind ads containing a box number. If an ad is keyed, care of Feedstuffs, 25¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $14.00 per column inch. No discount on ads ordered for more than one insertion. All Want Ads cash with order.

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FEED MILL DOING $1,000,000 YEARLY. Same brand name for 30 years. City in Texas. Write Kashfinder, Wichita, Kansas.

FEED MILL FOR SALE—LOCATED MAIN street and highway. Steam roller, grinder, mixer. Truck and trailer. Reason for selling, ill health. Spencer Black, Box 245, Snowflake, Ariz.

FEED MILL, CENTRAL CALIFORNIA— Storage capacity 4,500 tons, complete mill, mixing capacity 13,000 tons. Bulk truck, own spur track S.F. Ry.; 1⅝ acres land, with house. Address Ad No. 7347, Feedstuffs, Minneapolis 40, Minn.

FOR RENT—WOODSTOCK, ILLINOIS. Established feed and grain elevator. All modern equipment. Well stocked. Large bulk and bag storage areas. Railway siding. Ideally located in grain producing area. Financing or partnership available to responsible party. Contact: Carol Franks, Marengo, Ill.; Jordan 9-8581.

HELP WANTED

FIELD REPRESENTATIVE WANTED FOR midwestern territory. Prefer livestock farm background, college and sales experience. Anchor Serum Co., Sales Department, 2400 Frederick, St. Joseph, Mo.

NATIONALLY KNOWN FEED COMPANY has openings for regional credit managers. A true challenge for trained men who can assume real responsibility. Address Ad No. 7372, Feedstuffs, Minneapolis 40, Minn.

FEED MILL SUPERINTENDENT WANTED for major feed manufacturer. Must be experienced in production, plant operation and management. Excellent opportunity for capable man. Send resumé of experience, education and background. Address Ad No. 7339, Feedstuffs, Minneapolis 40, Minn.

FRENCH FIRM SPECIALIZING IN TRADE of cattlefood basic materials seeks technician nutritionist, preferably French speaking with good animal nutrition background, to carry out a technic-commercial survey and advise which U.S. produced cattlefood basic feedstuffs might be imported in France. Address Ad No. 7371, Feedstuffs, Minneapolis 40, Minn.

SALESMEN WANTED

We are seeking salesmen for New England and Middle Atlantic States. This position requires traveling with a car and expenses are provided. We are forming a new sales organization. We are a large and long-established National Manufacturer of feed ingredients. The men we are looking for should have sales experience calling on feed manufacturers. Compensation is salary and expenses. All replies are strictly confidential.

Address Ad No. 7191, Feedstuffs Minneapolis 40, Minn.

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Ph.D. Nutritionist whose specialty is poultry for progressive company manufacturing and selling feed additive products. Should have experience and be interested in working directly with salesmen and customers. Write giving full details of background and experience.

Address Ad No. 7369, Feedstuffs Minneapolis 40, Minn.

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WANTED — SCREW CONVEYOR, STEEL boxes, covers, beamings and hangers, etc. Selma Soybean Corp., Selma, N. C.

WANTED — OLD MODEL OR JUNKER Helm jumbo pellet mill. Lloyd Walker, Lincoln, Kansas; Phone Lambert 44107.

BAG CLOSING SEWING MACHINES AND equipment. Any type—condition. McCullough & Co., 8205 Paradise Lane, Kansas City 34, Mo.; SO 1-2857.

WANTED TO BUY—50 TO 100 H.P. USED California and Sprout-Waldron pellet mills. Address Ad No. 7352, Feedstuffs, Minneapolis 40, Minn.

WANTED TO BUY — RICHARDSON scales, bag closing machines, other good flour, feed and grain machinery. Complete plants bought and sold. Appraisals. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

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Must be moveable, 80% of new, post-war manufacture.

Full information please, make, model, specifications, picture, prints, sketch and price. (Prints copied and returned.)

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38 ft.	992 bu.	66 ft.
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FOR SALE—WESTERN PITLESS NO. 23 corn sheller with 25 H.P. motor and starter. Lawson Grain & Feed Co., Boswell, Ind.

FEED MIXER, 1-TON CAPACITY, GUAR-anteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

FOR SALE—ONE USED VAC-U-VATOR. Model 670, 4-wheel, with 60 ft. pipe. Houston Feed & Farm Supply, Houston, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, flour, feed and grain machinery. One of the oldest and largest experienced equipment houses. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

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FOR SALE—11½' BAG CONVEYOR; 50 x 12" dia. Screw Conveyor w/motor, screw driver reducer; 12'x14" dia. ear corn pit auger, variable speed drive; 30' 800 bu. bucket elevator. Write C. Frank Brooks, 9825 West Main Street, Belleville, Ill.

SEWING MACHINES — ALL TYPES CON-veyors, swinging units, portables. New and used. Fischbein, Union Special, Minneapolis. Complete rebuilding and service. McCullough & Co., 8205 Paradise Lane, Kansas City 34, Mo.; SOuth 1-2857.

FOR SALE — WHIZZER BAGGING CON-veyors, Richardson scales, Union Special, Minneapolis, Fischbein sewing heads, one to seven ton square bins, welded spouting and elbows, Winborns Mill Equipment Service, Williamsburg, Iowa.

FOR SALE—ENCLOSED MOTORS; RICH-ardson scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

FOR SALE—1958 TANDEM HOPPER BOT-tom bulk trailers. Air unloading; 7 and 8 compartments; 1,300 cu. ft. capacity; 10:00x20 tires; belt down center; airlock, blower, and engine mounted on trailer. Call or write: Central Soya Co., Inc., 300 Fort Wayne Bank Bldg., Fort Wayne, Ind.; Phone A-2441.

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NBC

(Continued from page 10)

ommendations to cure the ills of the industry.

Seminars

From the retail level NBC officials reported on the broiler seminars that are being held currently in different sections of the country. The first was held in Athens earlier this month.

At these seminars, retailers are being given a short course on how to better sell chickens.

Dr. R. J. Krueger, who recently joined NBC as director of research, placed before members plans for stimulating demand through the processor levels and a more complete study of marketing.

His department has been going into stores to gather data on point of purchase promotions in order to arrive at future merchandising programs.

A six-store test has already been completed. Point of purchase material was placed in three of the six stores as against three without.

First tests show a net sales difference of 28%, 8% and 14%, respectively, in favor of the outlets with NBC material, he said.

Also, a plan to thwart the housewife's argument of wastage in poultry due to bone content is under way with the development of a meat value calculator, he said.

Murrell Thomas, director of merchandising, said his division is going to work with the retail outlets, and some of the things to be explored will include the development of a deboning machine which will open up an entirely new field for poultry meat and research on plant-store cutting. He said there is a possibility there may be a need for more in-plant cutting rather than leaving it up to the stores; other fields of exploration will be market news search to keep retailers and public alike as informed as possible on price adjustments, as well as pre-testing materials, measuring results and the development of new uses and products.

Dr. Krueger also said low calorie recipes are going to be developed and distributed and these will be identified to the public as a means of "making weight watching a pleasure."

Frank Frazier, executive vice president, stressed that people are living differently today, and with the coming of fall NBC is going to sell the public on the idea that "chicken is the meat in line with living today." He also used the phrase that chicken is the meat that can help produce the figure that's "bathing suit slim."

Another thing NBC is working on is a retailer award program for merchants doing an outstanding job of merchandising poultry.

Attendance at the first of the merchandising seminars was good, Joe Frank Sanderson, NBC president said, which indicated that retailers are anxious to learn more about how to sell chicken.

The purpose of these seminars, he said, is to "foster a warm working relationship with the retail food industry and to sell more chicken—more profitably."

Oregon Mill Burns

CENTRAL POINT, ORE.—A serious fire which broke out late Thursday night, Oct. 12, resulted in an estimated loss of $75,000 to the feed mill facilities of Grange Cooperative here. The blaze apparently started in the head house of the elevator, burned throughout the elevator and the distribution facilities and large storage bins.

The cooperative's board of directors met and voted to commence rebuilding immediately. In the meantime Manager Don Patterson reports that arrangements have been made with other feed milling firms to provide an adequate amount of feed to service Grange Co-op customers.

Poultry Serviceman Clinic at Cornell

ITHACA, N.Y.—Under the theme "Today's Findings—Tomorrow's Practices," the annual Poultry Servicemen's Clinic sponsored by Cornell University will be held here Nov. 14-15.

Featured speaker for the clinic will be Howard F. Kalbfus, director of the Eastman Kodak Co. sales training center. His talk will be entitled "Sales Is Our Business."

This clinic, with most of its sessions on the New York State College of Agriculture campus here, is sponsored by the college's poultry department and the New York State Cooperative Extension Service in cooperation with allied industry groups.

Among the featured panel discussions of the event will be one entitled "Economics of Service—Where Does the Cost of Service Belong?" Moderator will be Earle Wilde, Sullivan County agricultural agent. Panelists will include: M. W. Backus, Grange League Federation; M. C. Babcock, Babcock Poultry Farm; Gil Eddy, Keene Manufacturing Co., and L. J. Janofsky, Ralston Purina Co.

Glenn Thacker, Cornell extension poultryman, will moderate a discussion on the theme "Housing Systems —What Will the Future Be?" Panel participants include the following poultrymen: Harold McEachron, Salem, N.Y.; Earl Hudson, Camillus, N.Y.; Thomas Salsbury, Phelps, N.Y., and John Vandervort, Ithaca, N.Y.

"Problem Cases Servicemen Face" will be the title of a third clinic panel. Panel moderator will be Dr. Clem Angstrom of the Kingston Lab, Kingston, N.Y. Panelists include: Bill Johnson of the Narrowsburg Feed & Grain; Henry Wentorf, Elmore Milling Co.; Bill French, G.L.F., and Don Demske, Hecht's Hatchery.

The following speakers and topics will be featured at the clinic: "Basic Fundamentals of Management on a Dollars and Cents Basis," Dr. Charles C. Sheppard, extension poultryman, Michigan State University; "Egg Handling on the Farm," Hollis Davis, Cornell agricultural engineering department; "Where Do We Go on Medication and Immunization?" Dr. J. R. E. Taylor, DeKalb Agricultural Assn., DeKalb, Ill., and "Challenge of Creation— Economics of the Poultry Industry to Meet Competition," Hollis Humphrey, Dewitt, N.Y., Ralston Purina Co.

Persons interested in attending the clinic may contact C. E. Ostrander, 206 Rice Hall, Cornell University, Ithaca, N.Y.

Change Thermometers To 195 Degrees

CHICAGO — Seedburo Equipment Co., Chicago, has issued a reminder to users of Brown-Duvel testers with automatic cut-off to switch to the 195° contact thermometer, which has replaced the 190° thermometer for corn.

Many people are still using the 190° thermometer, which was replaced in October, 1959, according to the company. The official oven method for determining the moisture content of corn was changed by the U.S. Department of Agriculture Oct. 1, 1959, so it's a must that all users of Brown-Duvel testers use the thermometer that will cut off at 195° rather than 190°, according to the company.

New Port Elevator on Mississippi Operating

NEW YORK—Bunge Corp's. new 2 million bu. port elevator at Destrehan, La., on the Mississippi River about 12 miles north of New Orleans, has begun operations with the loading of several cargoes of grain for export.

Completed at a cost of over $5 million, the elevator provides another link in Bunge's network of country, terminal and river elevators. The new elevator opens increased export possibilities to U.S. farmers throughout the major grain producing areas.

NEW NORTH DAKOTA MILL

HETTINGER, N. D. — Slated for opening of business is a new feed mill belonging to P. E. Knudson Mill & Elevator, Inc., Hettinger. The mill was constructed at a cost of $30,000. It is expected to produce 50-60 tons of pelleted feed a day.

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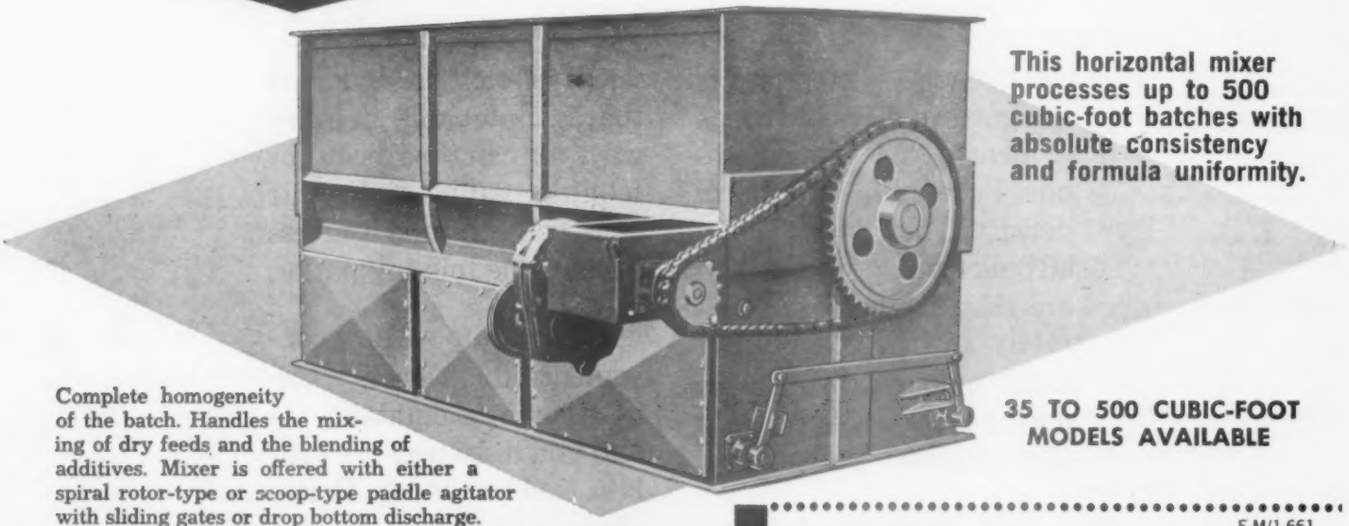

This horizontal mixer processes up to 500 cubic-foot batches with absolute consistency and formula uniformity.

Complete homogeneity of the batch. Handles the mixing of dry feeds and the blending of additives. Mixer is offered with either a spiral rotor-type or scoop-type paddle agitator with sliding gates or drop bottom discharge.

Air operated drop bottom gate permits positive, rapid discharge increasing hourly productivity. Dumps the entire load with no packing or lodging — reduces the risk of contamination.

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WIRTHMORE All Pelleted Dairy Feed

This new pelleted feed is designed to meet the needs of all modern feeding methods. Pellets are of uniform density. They flow freely in all bulk feeding systems and are easy to measure accurately by the scoopful. A small amount of molasses *on the outside* reduces fines and increases palatability.

Just check the tag and you'll see that here is a feed that is top quality in every way. It can't be beat for feeding value and your cows will consume it in less time in the milking parlor.

Add 'em up — new convenience, high energy value, tops in palatability — and you'll see why it's your best feed buy today. Better order some *now!*

HI-CAL-14-16-18
ULTRA-CAL 16

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POULTRY · DAIRY · STOCK
FEEDS

Suggests That Egg Price Factors Be Kept in Mind

EDGEWATER PARK, MISS.—Egg prices go the way influencing factors direct them. So, to get an idea of what these directions are, Dr. C. K. Laurent of Marbut Milling Co., Inc., Augusta, Ga., suggested in his talk at the Oct. 25 Mississippi Poultry Improvement Assn. convention that the many factors affecting egg prices be kept in mind.

He listed these factors, which are contained in a U.S. Department of Agriculture marketing bulletin, and compared their current status with that of a year ago and other points in the past:

1. Population—up.
2. Consumer incomes — up about 4% above a year ago. If consumer incomes increase 10%, consumption tends to increase by 1%.
3. Marketing costs—up.
4. Poultry feed prices—down. If the January-June average egg-feed price ratio changes from year earlier by 10%, the number of pullets raised changes 4% in the same direction. (The 1961 ratio increased 10%.)
5. Retail prices of meat, poultry, fish, cereals—up.
6. Storage of eggs—down.
7. Quantity of eggs used—?.
8. Retail egg prices—down from a year ago.
9. Egg production—up 2% above year ago. Egg production is influenced by size of laying flock—up 1% —and output per layer—up 1%.

CARDS

(Continued from page 1)

Marbut Milling Co., Inc., Augusta, Ga.:

- Until breeder numbers are reduced substantially, the broiler outlook will continue to be bleak.
- More eggs and lower prices are due in 1962.
- Chances are that the 1962 turkey crop will be large enough to keep prices at or near the cost of production.

These decks of broiler, commercial layer and turkey cards were examined from an observer's vantage by Dr. Laurent so that he could offer opinions of "What's in the Cards for 1962?" for the benefit of members and guests of the Mississippi Poultry Improvement Assn., who assembled here in convention Oct. 25.

"The Broiler Game"—Making the rounds of the table to get a look at all the cards dealt the broiler game players, Dr. Laurent could see that one of the most important fundamental facts that will influence the broiler industry in 1962 is the "tremendous" losses of capital incurred during 1961.

"I estimate there has been an actual total loss of about $50 million in capital since the first of May, and another $50 million that represents losses in depreciation, labor and normal income," Dr. Laurent said. "And these losses have not run their course as yet and may be double those I've mentioned before the situation is reversed."

Breeders on Hand

This loss of capital is enough to decidedly affect the outlook for broilers in 1962, he said, but the key that fits the lock on the door to 1962 is the number of breeders that will be on hand during the coming year.

"It appears obvious that we have sufficient breeder hens on hand at the present time to give us an increase in broiler numbers in 1962," he noted. Dr. Laurent brought along some U.S. Department of Agriculture statistics to substantiate this observation.

According to a USDA projection of data on sales of pullet chicks for broiler hatchery supply flocks, there will be 22 million breeders on hand in December of this year compared with 19.9 million during December, 1960. In January of next year, Dr. Laurent pointed out, the number is likely to go to 22.5 million, or 10% more than in January, 1961.

"Unless there is a very decided sell-off of breeders immediately, there will be no real relief during the first half of 1962," Dr. Laurent warned. "I look for a sell-off of breeders to take place very soon, since it does not appear possible for them to pay out.

"Until breeder numbers are reduced substantially, the broiler outlook will continue to be bleak. We now know that broiler prices can be forced to 10¢ lb. or below at the farm. And this fact will ever be with us in the future."

"Egghead Poker"—At the table where the winners and losers in the egg game are being determined, Dr. Laurent sees in the cards the prospect of capital formerly invested in the broiler business being diverted to the egg industry ("It's been done before and probably will be done again").

"I don't believe there is any question but that we will have more eggs next year and lower prices," Dr. Laurent predicted. "But how many and how much lower? We will know by March."

Where is the egg industry now and where is it going?

This year has been a reasonably profitable one for the egg producer. And history tells us, Dr. Laurent noted, that a good year usually induces increased egg production in the following year.

For instance, in the latter part of 1960 prices jumped to the highest levels seen in a number of years. As a result, egg-type chicks hatched in January of 1961 were 39% over the previous year and eggs in incubators Feb. 1, 1961, were 44% above a year earlier.

"But, this was one time when the industry took heed of very significant danger signals and put on the brakes," Dr. Laurent pointed out. "By June the cumulative placements had dropped to a manageable 5% above the previous year.

"Will the same restraint be exercised in 1962? It is difficult to say, although the trend is against it. Since June, the cumulative placement of egg-type chicks had climbed from 5% to 8% in September. There are many reports of broiler houses being filled with commercial layers as was the case after the poor broiler period of 1958-59.

"The futures market seems to indicate that a lot of people feel eggs will be plentiful in 1962. September shell egg futures are now at 34¢ doz. compared with 38¢ last year." (An analysis of factors which affect egg prices appears in an accompanying story.)

"Turkey Blackjack"—This game, Dr. Laurent observes, is much like the real card game of blackjack: "If you go above the limit, you lose."

Cards in the turkey deck indicate to Dr. Laurent that there probably will be a cutback in turkey numbers next year, "but chances are we will still have a crop large enough to keep prices at or near the cost of production. A crop of 90 million turkeys is not at all unlikely." A crop of this size would be the second largest on record and about 13% under the estimated 1961 crop of 104 million turkeys.

"Last year's profitable prices justified some increase in production—but not 26%," Dr. Laurent said. "There is only one logical explanation for this increase. And I've heard it from a good many turkey growers. This was the desire to establish a quota base for controls. Although it has been explained that the market order enabling act for turkeys does not provide for quotas, most turkey growers must feel that quotas are inevitable and they want to have a base when they come."

Dr. Laurent believes that turkey production will almost inevitably be down in 1962, but "there probably will be enough feeling among the big as well as little turkey growers about the possibility of quotas to give us the second largest turkey crop on record. And if things fall into line, it will be another year of prices at or below cost of production. This being so, it will then be 'necessary' for the government to institute the restraint that turkey growers are not willing to exercise themselves."

Jokers in the Deck—"Every standard deck of cards has some jokers, and our poultry cards are no exception." Dr. Laurent stated. "The biggest joker in the poultry deck is, of course, the U.S. Department of Agriculture.

"For years many career members of the USDA have felt that agriculture was not getting its fair share of the rewards for doing an outstanding job in production. They have also felt that the periodic beatings that agriculture has taken for producing too much have not been necessary. They have felt that they knew how much could be produced at a profit and all they wanted was a chance to prove it. The poultry industry, however, has been hard to convince. In fact, until recently it has stood on its own two feet and declared that it was willing to have its head bloodied in order to have the right to make its own decisions—right or wrong.

"The 'joker' in this game," Dr. Laurent concluded, "is top card and those dealing the hand know it. Next year will not be known as a year in which money was made or lost in the poultry business; 1962 will be known as the year in which the biggest fight of all took place throughout poultrydom. This fight will be over who is to control the industry. And, as in any game of cards, when the stakes are high, it pays to watch the dealer as he shuffles and deals."

Vigortone Constructing Plant, Office Building

CEDAR RAPIDS, IOWA — Construction has been started by Vigortone Products, Inc., Cedar Rapids, on its new plant and office building on Blairs Ferry Road on the north edge of Cedar Rapids.

A. D. Swarzentruber, president, said the new plant is located on a 3½ acre industrial site purchased from the Milwaukee Land Co.

The building will cover over 55,000 sq. ft. of which 10,000 sq. ft. will be office area. The new facilities will enable the company to produce about 150 tons of vitamin, mineral and antibiotic premixes per day. The company manufactures premixes and animal health products for cattle, hogs, horses, sheep and poultry.

The new plant will make it possible for the firm to take care of increased production demands, and to go to a complete bulk system of handling raw materials, officials said.

When completed, in early spring, the plant will supply 25 major warehouses and distributing points throughout the 15 state area served by over 1,000 Vigortone dealers.

TOP OF THE HOPPER

(Continued from page 2)

commodity now are most strongly in favor of control programs. Other persons and other areas, feeling they have greater opportunities or efficiencies, have, as previously, opposed controls. Control programs no doubt would have prevented some of the recent expansions in some of the lowest cost production areas in the poultry industry.

UNDER QUOTA PROGRAMS, it was recently pointed out by Oakley Ray of AFMA, production of a commodity tends to be frozen to its current geographical location. This discriminates against areas which are increasing their share of the U.S. market and favors areas of production which under the free market are losing out to other areas.

It also was mentioned that under programs like that for milk, producers near areas of greatest population tend to be favored at the expense of producers in areas where production costs are lowest. If there should be similar programs for other animal products, one of the important effects on the feed industry would be the tendency to shift location of mills toward areas of greatest human population.

In comments on control programs generally, Mr. Ray pointed out that it would appear to be difficult to gain much price advantage by controlling the output of a product like pork or broilers without controlling the supply of competing meats. If producers of a product like pork decided to increase prices by sharply restricting production, they would likely find many pork consumers switching to other meats. Also, some pork producers who were under-employed by the cutback would increase output of other products such as eggs or cattle, bringing overproduction of uncontrolled products. If a control program should be developed for one of the three commodities broilers, hogs or beef cattle, it probably would eventually be extended to the other two.

THERE CONTINUE TO BE reports of firms getting into, or getting out of, or staying in integrated broiler and other operations.

One major feed firm recently announced a newly created departmnt of integrated operations and the acquisition of some poultry companies. . . . A broiler industry observer said that he felt that not only would some major feed manufacturers get more deeply involved in integrated operations themselves; some firms supplying the feed industry also might become involved financially in integrated operations. . . . While some get in, others get out. There was a report that a major firm was letting broiler supervisors go in one area, indicating a suspension or dropping of broiler operations in the area. . . .

A feed and poultryman with wide experience in the broiler industry observed the other day that losses of capital among some of the integrators are tremendous because of the broiler price depression, and he said there was a question of how long even some of the stronger operators could take such losses. However, it was noted, many of these people are still opposed to government controls in their industry. . . .

Some of the larger independent broiler integrators have felt that theirs has been a strong position in the industry—stronger than that of feed manufacturer-dealer set-ups or direct operations of large feed firms. One independent operator said that he hoped that some of the large feed firms would become major factors in the broiler business. He expressed confidence that his operation and others could produce for less and that the major firms would in effect provide a price umbrella over efficient independents.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

ALFALFA MEAL

Kansas City: Demand fair; trend steady to stronger; supply ample; 17% dehydrated alfalfa, 100,000 A pellets $46@47, reground pellets $46@47; 15% dehydrated alfalfa, 125,000 A pellets $47@49, reground pellets $46@50; 20% dehydrated alfalfa, 150,000 A pellets $50@54, reground pellets $52@55; unchanged.

Los Angeles: Demand and trend steady; supply adequate; dehydrated meal, 17% protein, 100,000 A $50@51; dehydrated pellet meal, 17% protein, 100,000 A $52@54; suncured meal, 15% protein $41@42; suncured crumbles, 15% protein $43@44; all unchanged.

Buffalo: Demand and supply fair; trend steady; $58.10, sacked, Boston, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $50@54, up $1.

Ft. Worth: Demand slow; trend steady; supply sufficient; sacked: dehydrated, 17%, 100,000 A $54.50, rail or truck, up $1.50; suncured, 13%, ¼-in. grind, No. 1 $42, truck, unchanged.

St. Louis: Demand fair; trend firm; supply ample; dehydrated, 17% protein, 100,000 units of vitamin A, pellets $48.50, unchanged.

Memphis: Demand fair; trend steady to higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $52, down 50¢; reground pellets $51.60, unchanged.

Boston: Demand good; trend firm; supply spotty; dehydrated, 17%, $59, sacked, up $5.50; suncured, 13% $48, sacked, nominal, unchanged.

Seattle: Demand fair; trend firm; supply ample; suncured, 15% protein $40, Seattle, up $1; dehydrated, 150,000 A units $67, Seattle, up $1.

Chicago: Demand fair; trend off $1; supply ample; dehydrated, 17% protein, 100,000 units vitamin A $49.10.

Portland: Demand good; trend steady; supply ample; 15% suncured $40, sacked; 20% dehydrated pellet meal $69, sacked.

Minneapolis: Demand good; supply adequate; 17% dehydrated, 100,000 units vitamin A regrounds; pellets $50, steady; oiled reground $51, steady.

ANIMAL FAT (STABILIZED)

Ft. Worth: Demand fair; trend steady; supply sufficient; prime tallow, tank cars 5½¢ lb., drums 7@7½¢ lb., f.o.b. north Texas packing plants with returnable drums, unchanged.

St. Louis: Demand good; trend steady; supply ample; yellow grease 4¾¢ lb., delivered, tank trucks or cars, unchanged.

Los Angeles: Demand and trend steady; supply ample; 5½¢ lb., unchanged.

Memphis: Demand poor; trend steady; supply ample; yellow grease 5¢ lb., prime tallow 5¼¢ lb., both unchanged.

Boston: Demand fair; trend steadier; supply adequate; tallow 5⅝¢ lb., up ⅛¢; yellow grease 5⅛@5⅝¢ lb., up ⅛¢.

Atlanta: Demand good; trend steady; supply ample; 5¢ lb., f.o.b. Georgia and Alabama production points, unchanged.

Chicago: Demand trifle easier; trend down ⅛¢ lb.; bleachable fancy tallow $5.75 cwt., yellow grease $5.25 cwt., tank truck or carlot.

St. Paul: Demand good; supply ample; trend stabilized; bleachable fancy off ⅛¢ to 5⅝¢ lb., f.o.b. producer's plant.

BARLEY FEED

Los Angeles: Demand better; trend firmer; supply adequate; $2.62½ cwt., 2½¢ higher.

Boston: Demand and supply steady; trend steady; $45, unchanged.

Seattle: Demand good; trend firm; supply fair; $48.50, truck lots, up 50¢.

Chicago: Demand and supply fair; trend firm; $35, sacked.

Baltimore: Demand fair; trend firm; supply ample; $45.50, sacked.

BLOOD MEAL

Los Angeles: Demand slow; trend weaker; supply adequate; $5.25@5.50 a unit of ammonia, sacked, down 25¢.

Chicago: Demand good; trend firm; supply fair; 80% $132.50, sacked.

BONE MEAL (STEAMED)

Cincinnati: Demand good; trend strong; supply fair; $100, sacked, Cincinnati, up $5.

Los Angeles: Demand fair; trend steady; supply adequate; imported $78.50, 20 ton lots, sacked, unchanged.

Ft. Worth: Demand good; trend steady; supply sufficient; domestic $100, sacked, f.o.b. Ft. Worth, unchanged.

Buffalo: Demand and trend steady; supply fair; $105, sacked, Buffalo, unchanged.

Boston: Demand and supply steady; trend steady; $105, unchanged.

Chicago: Demand fair; trend firm; supply ample; $97.50, sacked.

Seattle: Demand fair; trend steady; supply good; $92, f.o.b. car Seattle, sacked, unchanged.

BREWERS DRIED GRAINS

St. Louis: Demand fair; trend easy; supply ample; 26% protein $41, down 50¢.

Cincinnati: Demand poor; trend higher; supply adequate; $50, up $2.50.

Los Angeles: Demand and trend steady; supply light; $51, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 26% protein $54.50, sacked, unchanged.

Buffalo: Demand and supply fair; trend steady to lower; $48, Boston, off $1.

Boston: Demand fair; trend easier; supply adequate; $49.10, off 90¢.

Chicago: Demand fair; trend steady to 50¢ up; supply ample; 26% protein $37@37.50.

BREWERS DRIED YEAST

Los Angeles: Demand good; trend steady; supply adequate; 10¢ lb., 5 ton lots, sacked; 11¢ lb., 1 ton lots, sacked; 12¢ lb., less than ton lots, sacked; all unchanged.

Buffalo: Demand and supply only fair; trend steady to a little higher; $9.15 cwt., f.o.b. Buffalo, up 5¢.

Cincinnati: 9@10¢ lb., sacked, unchanged.

Boston: Demand and supply steady; trend steady; 11¢ lb., unchanged.

Seattle: Demand slow; trend steady; supply ample; $12 cwt., sacked.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9¾@12½¢ lb., l.c.l.

CALCIUM CARBONATE

Los Angeles: Demand fair; trend steady; supply adequate; flour $9.85, 20 ton cars, sacked; meal $10.20, 20 ton cars, sacked; both unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt., unchanged.

Ft. Worth: Demand normal; trend steady; supply sufficient; $7.50, sacked, f.o.b. north Texas, unchanged.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, sacked.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk in boxcars $8.05; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $13.75; 100 lb. bags $13; bulk, boxcar $11.50; bulk, hopper $11; coarse grind $1 premium, delivered Minneapolis.

COCONUT OIL MEAL

Los Angeles: Demand slow; trend steady; supply adequate; copra cake $63@64, November through December, unchanged.

Seattle: Demand fair; trend steady; supply ample; solvent type $71, f.o.b. car Seattle, sacked, no change.

Portland: Demand slow; supply adequate; trend unchanged; 20% solvent $65.20.

CONDENSED FISH SOLUBLES

Los Angeles: Demand and trend steady; supply limited; 3½¢ lb., unchanged.

Boston: Demand good; trend firm; supply nil; $55, nominal, unchanged.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $6 more)

Minneapolis: Feed $41.70, meal $70.70.
Atlanta: Feed $46.10, meal $74.10.
Birmingham: Feed $42.90, meal $71.90.
Boston: Feed $46.60, meal $75.60.
Chicago: Feed $35, meal $64.
Cleveland: Feed $43, meal $72.
Denver: Feed $45.30, meal $74.30.
Ft. Worth: Feed $45.80, meal $72.80.
Indianapolis: Feed $40.25, meal $69.25.
Kansas City: Feed $35, meal $64.
Louisville: Feed $41.55, meal $70.55.
New York: Feed $46.20, meal $75.20.
Norfolk: Feed $45.60, meal $74.60.
Philadelphia: Feed $45.80, meal $74.80.
St. Louis: Feed $35, meal $64.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $42, unchanged.

Seattle: Demand good; trend firm; supply ample; $52, car, up $11.

COTTONSEED OIL MEAL

Cincinnati: Demand fair; trend higher; supply adequate; $62.50, up $3.50.

Memphis: Demand good; trend steady; supply ample; prime 41% protein, old process $55, up $2; new process, 41% protein $54, up $2.

St. Louis: Demand fairly good; trend firm; supply ample; 41% solvent process $54.50, Memphis basis, up $1.50.

Kansas City: Demand fair; trend strong; supply ample; 41% solvent process $61.20, up $1.50; 41% old process $61.70, up 50¢.

Los Angeles: Demand slow; trend easier; supply ample; $55, unchanged to $1 down.

Buffalo: Demand and supply fair; trend higher; $76.40, sacked, Boston, up $1.

Ft. Worth: Demand good; trend steady; supply sufficient; 41% old process $60, f.o.b. mills Ft. Worth, unchanged; loose hulls $12@15, up $1.02; solvent with 2% fat added $60, up $1.40; dry $59, up $1.40.

Atlanta: Demand good; trend stronger; supply limited; 41% $62, North Carolina and South Carolina, up $3; $61, Georgia, up $2; $58, north Alabama, up $1; $55, Mississippi, up $1; $57, Tennessee, up $2; f.o.b. producing mills.

Seattle: Demand good; trend steady; supply ample; 41% expeller $68, f.o.b. car Seattle, down $1.

Portland: Demand fair; trend steady; supply adequate; 41% solvent $68.20.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $43.50 sacked, $40.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $61.25, sacked, 100 lb. multiwall bags, bulk $58.25; truck load $62, sacked, in 100 lb. multiwall bags, bulk $59, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $52, f.o.b. Tupelo in 100 lb. multiwall bags, $49 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $66 (or $3.67 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, minimum fluorine .18% $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck lots of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $66.35 bulk ($3.65 per unit of P).

Port Arthur, Texas: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload and truck load $65.75, sacked, 100 lb. multiwall bags; bulk $62.75, f.o.b. Port Arthur.

Ft. Worth: Demand good; trend steady; supply adequate; minimum 18% phosphorus, maximum 34% calcium, maximum .18% fluorine $73.45, sacked, unchanged.

Cincinnati: 18% phosphorus, carlots $74.30, ton lots $84.30; 14% phosphorus, carlots $62.50, ton lots $72.50, Cincinnati, unchanged.

DICALCIUM PHOSPHATE

Chicago: Bulk, carlots and truck loads, 18½% phosphate $78 and 21% phosphate $89; packed in 100 lb. papers, 10 tons or more, 18½% phosphate $81 and 21% $92; lesser quantities, 18½% phosphate $91 and 21% $102; above prices per ton, f.o.b. Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $81 (or $4.38 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18.5%, minimum calcium 24% $81, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 29%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $75.50, sacked, in 100 lb. multiwall bags, bulk $72.50, f.o.b. Texas City.

Trenton, Mich.: 18½% phosphorus and 23% calcium, bulk boxcar/hopper car $78; bagged $81; 21% phosphorus product production discontinued.

Seattle: Demand good; trend steady; supply limited; $91, ex-dock Seattle, sacked, unchanged.

Los Angeles: Demand and trend steady; supply adequate; 18½% phosphorus $95.10, sacked, unchanged.

Buffalo: Demand and supply good; trend steady; $82.90, sacked, Boston, unchanged.

Cincinnati: 18½% phosphorus $88.80, bagged in carloads; $98.70, bagged in ton lots, f.o.b. Cincinnati; $81, f.o.b. production points, unchanged.

Ft. Worth: Demand fair; trend steady; supply adequate; $81.50, sacked, unchanged.

DISTILLERS DRIED GRAINS

Cincinnati: Demand fair; trend steady; supply adequate; $48, unchanged.

Buffalo: Demand fair to good; trend steady; supply good; $51, Boston, unchanged.

Boston: Demand and supply in balance; trend steady; dark $51, light $50.

DRIED BEET PULP

Los Angeles: Demand and trend steady; supply ample; $47, Los Angeles milk shed, unchanged.

Buffalo: Demand and supply fair; trend steady; $53.50, sacked, Boston, unchanged.

Ft. Worth: Demand slow; supply sufficient plain $55, sacked, November-December, unchanged.

Boston: Demand and supply fair; trend steady; $53.50, sacked, off 50¢.

Seattle: Demand fair; trend steady; supply ample; $48, delivered carlots, sacked, unchanged.

Atlanta: Demand fair; trend steady; supply good; $53.40, sacked, delivered, unchanged.

Portland: Demand good; trend steady; supply adequate; $47.58, sacked.

DRIED BUTTERMILK

Los Angeles: Demand and trend steady; supply adequate; 14@14¼¢ lb., sacked, unchanged.

Buffalo: Demand fair; trend steady; supply adequate; $10.75 cwt., f.o.b. Buffalo, unchanged.

Boston: Demand and supply steady; trend steady; 14¢ lb., unchanged.

Chicago: Demand and supply fair; trend firm; medium acid $10.25@10.50 cwt., sweet cream $10.25@10.50 cwt., both sacked.

DRIED CITRUS PULP

Los Angeles: Demand and trend steady; supply limited; orange pulp $43, lemon pulp $41, both unchanged.

Buffalo: Demand fair; trend steady; supply good; $32.50, sacked, f.o.b. Florida points, unchanged.

Boston: Demand and supply steady; trend steady; $50.17, sacked, unchanged.

Atlanta: Demand fair; trend steady; supply good; pulp $32.50, sacked; meal $30, sacked; both f.o.b. Florida processing plants and unchanged.

DRIED SKIM MILK

Los Angeles: Demand fair; trend steady; supply adequate; 14¢ lb., less than ton lots, sacked; 13¾¢ lb., ton lots, sacked; both unchanged.

Buffalo: Demand good; trend higher; supply adequate; spray $11.85 cwt., f.o.b. Buffalo, up 10¢.

Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; $16.50 cwt., sacked, unchanged.

Boston: Demand and supply steady; trend steady; 13½¢ lb., unchanged.

Minneapolis: Demand good; supplies tight; price steady at $13.25 cwt.

Chicago: Demand improved; trend higher by 25¢ to 50¢; supply fair; $12.50@13 cwt., sacked.

DRIED WHEY

Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked, unchanged.

Ft. Worth: Demand fair; trend steady; supply adequate; standard $4.75, sacked, truck or rail, delivered Ft. Worth; small lots $5.25, f.o.b. warehouse Ft. Worth, unchanged.

Los Angeles: Demand fair; trend steady; supply adequate; $5.10 cwt., carloads, sacked; $5.25 cwt., l.c.l., sacked both unchanged.

Kansas City: Demand fair; trend steady; supply ample; $4.50 cwt., sacked, unchanged.

Boston: Demand and supply steady; trend steady; 4.85¢ lb., carlots, unchanged.

Minneapolis: Demand good; supply tight; price still $4.75 cwt., f.o.b. shipping point.

Seattle: Demand steady; trend easy; supply good; $5.70 cwt., ex-warehouse, l.c.l., unchanged.

Chicago: Demand quiet; trend steady; supply fair; $4.80@5 cwt., sacked.

FEATHER MEAL (HYDROLYZED)

Los Angeles: Demand good; trend steady; supply adequate; $1 a unit of protein, sacked, unchanged.

Memphis: Demand slow; trend barely steady; supply adequate; 85% meal $81, unchanged.

Ft. Worth: Demand fair; trend steady; supply sufficient; exporters taking production of some plants; 85% protein $80@82.50, delivered Ft. Worth, unchanged.

Boston: Demand fair; trend easier; supply ample; $92@95, f.o.b. shipping points, off $3.50@6.50.

Atlanta: Demand good; trend steady; supply short; $83.50, f.o.b. Alabama and Georgia production points, unchanged.

FISH MEAL

Los Angeles: Demand slow; trend weaker; supply adequate; local production, 60% protein $1.80@1.82½ a unit, unchanged to 2½¢ down.

Buffalo: Demand light; trend steady; supply unavailable; 60% protein menhaden $130, f.o.b. Buffalo, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $113.11, unchanged.

Ft. Worth: Demand good; trend steady; offerings limited; sacked: 65% protein Peruvian $119, up $1; 60% new crop menhaden $126, up $2.

Boston: Demand active; trend firm; supply very tight; white fish meal 60% $117, nominal, unchanged; red fish meal 57% $113, up $1.

Atlanta: Demand good; trend steady; supply limited; 60% menhaden $115, sacked, Atlantic ports, unchanged; 65% Peruvian $112@113, Gulf ports, up $1.

Seattle: Demand and supply fair; trend steady; Canadian production $1.85 a unit protein, f.o.b. truck Vancouver, B.C., sacked, unchanged.

Portland: Demand fairly good; trend higher; supply tight; $2.05 a protein unit, sacked.

Chicago: Demand very good, but offerings withdrawn and prices quoted are strictly nominal; trend unchanged; menhaden, East Coast $118@120, Gulf $113@120; scrap, East Coast $114@116, Gulf $114@116; Canadian herring $1.80@1.90 a unit of protein.

Minneapolis: Demand fair; supply tight; Canadian herring steady at $1.85 a unit for prompt, f.o.b. West Coast; $1.75 subject to production; 60% West Coast blended steady at $138.

HOMINY FEED

Buffalo: Demand and supply fair; trend steady to higher; $49.50, Boston, up 50¢.

St. Louis: Demand slow; trend easy; supply adequate; yellow $46, unchanged.

Kansas City: Demand fair; trend strong; supply scarce; yellow hominy $35@35.50, unchanged.

Los Angeles: Demand good; trend steady; supply tight; hominy meal $50, hominy pellets $52, both unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $41, down 50¢.

Memphis: Demand poor; trend steady; supply ample; white $40.80, up $1; yellow $40.80, up $1.

Boston: Demand active; trend firmer; supply fair; $49, up $1.50.

Seattle: Demand fair; trend firm; sup-

(Turn to QUOTES, page 96)

Major Markets Roundup

Soybean Meal, Millfeed Prices Increase

Soybean meal proved to be the hot item in the ingredient market again this week and it led many other ingredients to higher ground. Soybean meal advanced $3.50 to $4.50 in the Chicago market as demand continued good and processor supplies were short.

Millfeeds were strong throughout the nation as cattle feed demand picked up. In Kansas City the price was up $4.50 to $5 on midds.

Cottonseed meal advanced as much as $6 per ton in Atlanta as there was heavy buying interest displayed by both exporters and dealers. Many of the other protein ingredients were also strong this week, reflecting the strong soybean meal market.

East

BOSTON: A gradual rebuilding of inventories sparked a fairly general advance in the local millfeed market this week.

For the first time in several months buyers were decidedly more aggressive than potential sellers and some rather broad price advances were recorded. Leading gainers were alfalfa meal, soybean meal, linseed, bran, middlings, oat products and hominy feed.

Heavy liquidation of fowl weakened poultry by-products and feather meal which were both available in volume after a lengthy period of tight supply.

Predictions of a killing frost also tended to stimulate over-all demand.

BUFFALO: Tightness in millfeeds and the continued rebound in soybean oil meal featured a stronger, more active ingredient market.

Soybean oil meal carved out a $2.50 advance as buying continued to thin out supplies, and the scarcity may last for another two or three weeks.

Millfeeds retreated $2.50 after labor peace finally came to the waterfront, but "only moderate" buying tightened shipping positions, and prices bounced back. Bran was unchanged; middlings moved up $1.50, and red dog gained $1. The latter was especially scarce in the New England states.

Grains were steady, with the exception of barley which eased 1¢. Both cottonseed oil meal and linseed oil meal advanced $1. Animal tallow rallied ⅛¢ to 5¾¢ lb., but a trade source said it is unlikely to go any higher. Meat scraps were scarce and up $2.50. Fish meal was also scarce but prices held steady. Brewers' grains declined $1, but hominy was hard to find and up 50¢.

Midwest

CINCINNATI: Volume of business in the feed ingredient market was steady this week, with supplies adequate to meet the demand.

Bone meal advanced $5. Cottonseed oil meal was up $3.50; brewers' dried grains rose $2.50, and linseed oil meal advanced $2. Also up were: Alfalfa meal and millfeeds by $1 and soybean oil meal by 50¢.

On the lower side were: Tankage, $2.50; meat scraps, $1.50, and pulverized white oats, $1 to $4. Also lower were: Hominy feed, 50¢, and molasses, ¼¢.

CHICAGO: For the third successive week, soybean meal was "hotter'n a 10¢ store pistol." The 44% protein meal was up $4 to $4.50 per ton and 50% was up $3.50 to $4.50.

Demand appeared to come from all directions and jobbers, brokers, processors and retail outlets all reported a demand that would make one think that selling the stuff was going out of style, a situation which few visualized was likely to materialize in light of the current year's soybean production.

Meal has now wiped out about $10 of the slump that had pushed the 44% with unrestricted billing down into the low fifties per ton range and ETL into the high forties during the entire latter half of Sepember.

Apparently, the Bureau of the Census monthly release that showed sharply reduced crushing operations during September with resultant repercussions on meal production, along with a brisk step-up in the demand for meal itself, brought about a cut of 100,000 tons in the stocks of that product in processors' hands by Sept. 30. And, it added momentum to the price advance.

The soybean crush last month, at only 22,953,000 bu., was the smallest since September, 1957. And, it seemed to carry added significance by virtue of the fact that it represented a reduction of more than 7 million bushels from the August crush. Naturally, the production of meal suffered proportionately with less than 530,000 tons made vs. 697,000 tons in August and nearly 620,000 tons during the preceding September.

But, the big story was the cut in processors' meal stocks from 171,100 tons the preceding month's end down to only 71,900 tons as of Sept. 30.

MINNEAPOLIS - ST. PAUL: The continued strength shown by soybean meal was the highlight of local ingredient market this week. Soybean meal advanced $4 to $5.50. The 44% protein meal sold at $54, bulk Decatur, at week's end.

Out of sympathy, meat and bone meal advanced $3 to $4.50 to a level of $83 to $87. Linseed meal also advanced in a range of 50¢ to $1. The 34% solvent meal is now pegged at $56.50, up 50¢.

Millfeeds continued strong with middlings increasing by $2.50 to $39. Bran was up $1 to $38 and red dog also moved up $1 to $43. Advances of $1 to $2 were chalked up in oat products. Feeding rolled oats was up $1 to $83 and feeding oatmeal was up $2 to $68.

Animal fat, which was higher last week, dropped off after exporters filled their needs and is now moving at 5⅝¢ lb., f.o.b. producer's plant, ⅛¢ lower.

The price of tankage was steady to $1 lower, the range now being $89 to $92.

ST. LOUIS: Vegetable and animal protein ingredients continued to show firmness in this week's trading.

Demand for spot shipment material, particularly for soybean meal and millfeeds, was very good, reflecting an improved outgo of formula feeds.

Soybean meal advanced again, moving up $1. Buyers found nearby shipment supplies tight as some major processors were sold out for a week ahead. Cottonseed meal advanced $1.50, gaining strength from the soybean product. Meat scraps were firm and up $1 also, in sympathy with vegetable proteins and a stronger raw material market.

There were downturns in a few ingredients and a tendency to a weaker undertone in others. Blackstrap molasses was off ¼¢ with domestic production crowding for sale. Brewers' grains were quoted 50¢ lower and suppliers indicated they wouldn't be surprised to see the market move down more. The weakening factor was the competition from distillers' grains, now being produced in tremendous volume.

Hominy feed prices held unchanged, but pressure was developing from increasing supplies of cheaper corn screenings.

South

ATLANTA: Heavy buying interest by exporters and dealers, as well as heavy gin demand, has caused cottonseed meal to advance as much as $6 per ton in the last two weeks.

Lack of any heavy movement of soybeans to the processors is keeping soybean meal in very tight supply, and processors are not inclined to reduce their prices at this time. In fact, many look for further increases; however, most of the major feed ingredient buyers continue to buy their requirements on an as-needed basis.

Good supplies of corn are still available, with prices ranging from $1.12 to $1.14 bu., f.o.b., to $1.25, delivered, depending upon location.

The movement of citrus pulp is gradually increasing, although as of Oct. 15 there was still 60,400 tons of pulp in store in Florida. Prices remain firm at $32.50 f.o.b.

MEMPHIS: Cottonseed oil meal furnished the feature for an otherwise dull ingredient market in Memphis.

The demand was good for this commodity at prices of $2 per ton higher in both solvent and old process. Active buying interest has been noted the past 10 days and considerable business was done in October and November deliveries. Purchases continued even at higher levels, especially for nearby offerings.

The soybean oil meal supply in Memphis proper continued light. But, recent price advances held. Little buying interest was shown in forward offerings.

On the Memphis Board of Trade, unrestricted soybean oil meal futures climbed $1.50 to $2 per ton, while bulk solvent cottonseed oil meal stayed unchanged for the week.

Trading for the period amounted to 3,300 tons of unrestricted soybean oil meal.

With mixed feed business reported very dull, business was still slow in animal and poultry by-products, and virtually all prices were unchanged.

Local producers were well sold up on alfalfa meal. The last cuttings produced very disappointing yields due to the long period of dry weather, which reduced growth. Little meal was stored by Memphis independent producers. Firmness appears ahead for prompt and forward shipment prices.

After scoring a substantial upturn, millfeeds appeared to have leveled off and actually the market as a whole was considered on a downtrend in price. Buying interest continued fairly good. Some weakness appears and the trade anticipates lower prices in the near future.

Molasses was fairly steady, with a slight reduction in price for prompt shipment as the market had difficulty absorbing new crop offerings from Louisiana. Until this movement is over, the market apparently will remain fractionally lower than recent prices.

Southwest

KANSAS CITY: Ingredient prices were all higher this week with millfeeds having the sharpest increase. Cattle feed shipments have caused an improved demand for midds which have advanced $4.50 to $5. Other wheat feeds were all higher for the week.

Soybean meal was up again this week with spot cars commanding a $5 increase. Cottonseed meal, meat scraps and tankage all were higher with improved demand.

The major alfalfa producing areas have finished their dehy production. Higher price levels brought out some future offerings from storage and attracted increased buying interest.

FT. WORTH: High protein feed ingredients continued to advance this week.

The following increases over last week's prices were marked up. Soybean meal, $2 to $4; cottonseed meal, $1 to $1.40; fish meal, $1 to $2; linseed meal, $1.20; millfeeds, $1.50 to $2.50, and dehydrated alfalfa meal, $1.50.

Demand for soymeal and cottonseed meal, as well as millfeeds and fish meal, was reported as very good and offerings light for nearby shipment. Quotations on packing house by-products were unchanged but firm.

Brokers expect demand for most ingredients to greatly improve with the first cold snap in the area, but the weather continued very mild.

West

SEATTLE: Soybean oil meal continued to show strength with farmers now sitting on the beans. Meal was quoted at $77.60, an increase of $2.

Cottonseed meal was unchanged at $69, bulk Seattle. However, it has strong undertones with the cotton crop down and support up approximately $5 from last year.

Meat meal was up 5¢ per unit to $1.70.

Herring meal was firm at $1 per unit, Vancouver, B.C., with fishermen and producers now negotiating for the winter contract.

PORTLAND: Quotations for major feed ingredients at Portland and other Pacific Northwest markets continued the upward trend of the past few weeks. Soybean meal values continued to lead the general market strength by advancing $3.50 to $4 a ton, while other oil seed meals sold steady to firm in fairly dull trading. Linseed meal quotes, however, closed $2 a ton higher.

Animal protein feeds averaged firmer with fish meal listings gaining 5¢ a protein unit.

Wheat millfeed quotes were pushed $1 a ton higher despite continued heavy production and relatively slow buying interest.

Portland and Seattle alfalfa hay listings were firm to higher at $31 to $32 a ton, f.o.b. feeding districts.

QUOTES

(Continued from page 94)

ply limited; $51, delivered carlots, up $1.

Chicago: Demand good; trend $1 higher; supply fair; $40.

LINSEED OIL MEAL

Cincinnati: Demand poor; trend higher; supply adequate; new process $56.50, old process $61.50, Minneapolis, up $2.

Los Angeles: Demand slow; trend steady; supply adequate; local production, 31% protein $71, unchanged.

Buffalo: Demand and supply fair; trend steady to higher; $56, Minneapolis, up $1.

Ft. Worth: Demand slow; trend steady; supply sufficient; 34% protein extracted $71.40, November, up $1.20.

Boston: Demand and supply light; trend steady; 34% $78.20, up $4.20.

Minneapolis: Demand strong; supply ample; trend 50¢@$1 higher; 34% solvent up 50¢ to $56.50; 32% expeller up $1 to $61.50.

Chicago: Demand good; trend strong, up $1@1.50; supply moderate; Minneapolis basis: solvent $56.50, expeller $60.50.

Seattle: Demand fair; trend steady; none available; 34% protein (Montana) $89, delivered carloads, sacked, unchanged.

Portland: Demand slow; trend higher; supply tight; 34% solvent $87.60.

MEAT AND BONE MEAL

St. Louis: Demand good; trend firm; supply ample; 50% $79, $1 higher.

Ft. Worth: Demand good; trend steady; supply sufficient; meat and bone $75 bulk, $77.50 sacked, f.o.b. Ft. Worth, unchanged.

Cincinnati: Demand good; trend firmer; supply fair; 50% meat and bone scraps $73.50, Cincinnati, down $1.50.

Los Angeles: Demand slower; trend steady; supply tight; 50% protein $1.75 a unit, unchanged.

Memphis: Demand slow; trend barely steady; supply adequate; 50% protein $76@78, nominal, without billing, up 50¢; 50% protein $81, nominal, with rail transit, unchanged.

Kansas City: Demand poor; trend stronger; supply ample; 50% scraps $85, up $5.

Buffalo: Demand fair; trend higher; supply scarce; 50% meat scraps $75, f.o.b. Buffalo, up $2.50.

Boston: Demand good; trend firm; supply adequate; $1.10 a unit protein, up 5¢; converted, 50% $77, up $2.50.

St. Paul: Demand improved; supplies ample; price advanced $3@4.50 to $83@87.

Seattle: Demand good; trend steady; sup-

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ply ample; $1.65 a unit protein, ex-processing plant, sacked, no change.

Chicago: Demand fair; trend unchanged; supply adequate; 50% protein $55, sacked.

Portland: Demand fairly good; supply adequate; trend steady; 50% $51, sacked.

MEXICAN PHOSPHATE

Brownsville, Texas: Mexican natural ground rock; 13% phosphorus $39 sacked, bulk $2 less.

MILLFEED

Minneapolis: Demand good; supplies tight on quick; trend stronger; sacked bran up $1 to $38; sacked middlings up $2.50 to $39; sacked red dog up $1 to $43.

Seattle: Demand and supply good; trend firm; $37, delivered common transit points, carlots, up $1.

Chicago: Demand good; trend $1.50@2 up; supply moderate; standard bran $38.50, standard midds. $39.50@40, red dog $41.

Portland: Demand slow; trend strong; supply tight; $38, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; bran $42, middlings $44, up $1.

Los Angeles: Standard millrun $44@44.50, good demand, firmer trend, supplies tight, unchanged to 50¢ higher; red bran $50@51, slow demand, firmer trend, adequate supplies, up $1.

Buffalo: Demand fair to good; trend steady to higher; supply just fair to good; bran $40, unchanged; middlings $42, up $1.50; red dog $44, up $1; all prices f.o.b. Buffalo.

Memphis: Demand fair; trend steady to lower; supply ample; wheat bran $40.80, up $3; gray shorts $42.80, down $3; standard midds. $41.80, up $3.

Kansas City: Demand fair; trend stronger; supply tight; sacked bran $37.50@38, up 50¢; sacked shorts $39.50@40, up $2.50; bulk bran $35@36.50, up $1.50; bulk shorts $36.50@37, up $1; bulk middlings $36.50@37, up $1.

Ft. Worth: Demand good; trend strong; offerings light for nearby; bran, bulk $43.50, burlaps $46; gray shorts, bulk $45, burlaps $48.50; middlings, bulk $44.50, delivered Texas common points; bulk bran up $2, sacked bran up 50¢@$1, bulk shorts up $2.50, sacked shorts up $1.55.

St. Louis: Demand good; trend firm; supply ample; sacked bran $42.50, up $1.25; shorts $44.25, up $2.50; bulk bran $39, up $2; bulk middlings $39.50, up $1.50.

Boston: Demand good; trend firmer; supply adequate; bran $47.60, up $3.50; middlings $49.60, up $3.50.

MOLASSES

Ft. Worth: Demand fair; trend steady; supply sufficient; blackstrap 14¢ gal., f.o.b. Houston; truck $30.64, delivered Ft. Worth, seller's market price on date of shipment, unchanged.

St. Louis: Demand slow; trend easy; supply ample; blackstrap 13¢ gal., tank cars, New Orleans, ¼¢ lower.

Los Angeles: Demand good; trend steady; supply ample; $26.50, f.o.b. tank cars; $26.75, f.o.b. tank trucks; both unchanged.

Buffalo: Demand and supply fair; trend steady; 16½¢ gal., f.o.b. Albany, unchanged.

Boston: Demand and supply steady; trend steady; 16¼¢ gal., tank cars, unchanged.

Kansas City: Demand slow; trend weaker; supply ample; 12⅝@12⅞¢ gal., New Orleans, down 1¼¢.

Cincinnati: Demand fair; trend steady; supply adequate; 13¼¢ gal., New Orleans, down ¼¢.

Memphis: Demand fair; trend steady; supply ample; blackstrap 13@13¼¢ gal., tank car, f.o.b. New Orleans, down ¼¢; $28.46, delivered Memphis, truck, down $1.

Minneapolis: Prices unchanged at $35 for blackstrap, tank truck, delivered Twin Cities; $31 for beet; $32 for blend.

Atlanta: Demand good; trend steady; supply short; citrus $20, f.o.b. Florida processing plants, unchanged.

Seattle: Demand fair; trend firm; supply good; $25.75, f.o.b. Seattle, tank truck lots, down $2.

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OAT PRODUCTS

Buffalo: Demand and supply fair; trend steady; $24.60, sacked, Boston, unchanged.

St. Louis: Demand fair; trend steady; supply ample; white pulverized $43, unchanged; reground oat feed $12.50, unchanged.

Chicago: Demand quiet; trend steady to $1 lower; supply fair; reground oat feed $11; No. 1 fine ground feeding oatmeal $72; feeding rolled oats $74@78.

Ft. Worth: Demand slow; trend steady; supply sufficient; 10% protein oat millfeed $41, sacked, unchanged; reground $20.80, sacked, unchanged.

Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $44@47, down $1@4.

Kansas City: Demand fair; trend weak; supply ample; oat mill by-product $15@15.50, up $1.50; feeding rolled oats $74@75, unchanged.

Boston: Demand good; trend firm; supply spotty; white pulverized $54.60, sacked, up $2.60; reground oat feed $24.10, unchanged.

Seattle: Demand fair; trend steady; supply good; 38 lb. or better $51, delivered truck lots, unchanged.

Minneapolis: Demand better; supplies adequate; sacked feeding rolled up $1 to $33; sacked feeding oatmeal up $2 to $68; sacked crimped steady at $62; sacked pulverized steady at $46; sacked oat feed steady at $20.

PEANUT OIL MEAL

Los Angeles: Nothing available for quotation.

Atlanta: Demand good; trend steady; supply short; 46% $59, south Alabama for solvent, f.o.b. producing mills, unchanged.

POULTRY BY-PRODUCTS

Ft. Worth: Demand good; supply scarce; $87.50@90, sacked, f.o.b. Texas plants, down $2.50.

Los Angeles: Demand good; trend steady; supply adequate; $1.55 a unit of protein, sacked, unchanged.

Memphis: Demand slow; trend barely steady; supply adequate; 55% meal $77.50, sacked, unchanged.

Boston: Demand slow; trend easier; supply ample; $55, f.o.b. shipping point, off $15.

Atlanta: Demand good; trend stronger; supply ample; meat meal $72.50, f.o.b. Alabama and Georgia production points.

RICE BY-PRODUCTS

Ft. Worth: Demand fair; trend steady; limited offerings on standard rice bran, sufficient on solvent; standard rice bran $37, sacked, f.o.b. Houston; solvent rice bran $30.50 bulk, $34.50 sacked, f.o.b. Texas rice mill, unchanged.

Los Angeles: Demand slow; trend firm; supply very limited; California production, high fat content, bran $53, sacked, unchanged.

Buffalo: Demand only fair; trend steady; supply adequate; $56, f.o.b. Buffalo, unchanged.

Atlanta: Demand good; trend steady; supply tight; $44.50, sacked, delivered, up 50¢.

SCREENINGS

Los Angeles: Demand slow; trend steady; supply adequate; ground barley $35, sacked, unchanged.

Buffalo: Demand and supply fair; trend steady to higher; ground, sacked $33, New York, lake and rail, up 75¢; bulk, unground $27.50, New York, unchanged.

Cincinnati: Demand fair; trend higher; supply adequate; unground grain screenings $21.75, up $1.75.

Chicago: Demand and supply fair; trend steady; ground grain $30.50, Canadian $24.

Minneapolis: Demand better on Canadian; supplies ample; prices unchanged; unground Canadian $18; domestic lights $3@10; domestic mediums $12@20; domestic heavies $20@28; 15% flax screenings $40.

SOFT PHOSPHATE

(Sacked, delivered)

Atlanta: $20.25.
Buffalo: $25.50.
Chicago: $24.96.
Cincinnati: $23.64.
Des Moines: $25.42.
Kansas City: $25.07.
Memphis: $22.28.
Minneapolis: $26.12.
Philadelphia: $24.51.
St. Louis: $24.33.

SOYBEAN OIL MEAL

Buffalo: Demand fair; trend higher; supply fair to poor; $54.50, Decatur, up $2.50.

Portland: Demand fair; trend higher; supply tight; 44% $79.10, 50% $86.10.

Chicago: Demand very brisk; supply shrinking; trend very strong, up $3.50@5.50; 44% protein, Decatur basis, unrestricted billing $59; E.T.L. $56; 50% protein, unrestricted billing $64.50; E.T.L. $62.

Ft. Worth: Demand excellent; trend firm; offerings light for nearby delivery; 44% $67.80, immediate, up $3; $64.80@66, November-December, up $2@3; 50% $72.30, immediate, up $2.40; $70.30@72.50, November-December, up $2.40@4.60.

Cincinnati: Demand fair; trend higher; supply adequate; $57@57.50, Decatur, up 50¢.

St. Louis: Demand good; trend firm; supply adequate; 44% $58, Decatur basis, up $1.

Memphis: Demand fair; trend steady to lower; supply ample; prime 44% solvent $61, f.o.b. Memphis, up $3.

Kansas City: Demand fair; trend strong; supply adequate to tight; 44% solvent $58@58.50, up $5.

Los Angeles: Demand slightly better; trend firmer; supply adequate; $78.60@79.60, up $1@2.

Boston: Demand good; trend strong; supply fair; 44% $54@54.50, up $3@3.50; 50% $60@61, up $1.50@2.50, f.o.b. Decatur.

Minneapolis: Demand very good; supplies tight on immediate; 44% protein up $5 to $54, Decatur; 50% up $4 to $61; 41% expeller up $5.50 to $62.

Atlanta: Demand good; trend stronger; supply limited; 44% $67.80, delivered, up $2.10.

Seattle: Demand fair; trend firm; supply ample; $75.60, delivered carlots, up $1.

TANKAGE

Cincinnati: Demand and supply good; trend firmer; 60% digester $85, Cincinnati, down $2.50.

Chicago: Demand fair; trend firm; supply ample; 60% protein $95, sacked.

Ft. Worth: Demand fair; trend steady; supply sufficient; 60% digester $90, sacked, Ft. Worth, unchanged.

Kansas City: Demand poor; trend stronger; supply ample; 50% digester $92.50, up $4.

St. Paul: Demand improved; supplies ample; price steady to $1 lower; range $89@92.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Los Angeles: Demand good; trend steady; supply adequate; 5¾¢ lb., unchanged.

Ft. Worth: Demand good; trend steady; supply sufficient; 5¢ lb., f.o.b. north central Texas, unchanged.

UREA FEED COMPOUND

Woodstock, Tenn.: Minimum 42% nitrogen, 262% protein equivalent; $105 bagged, $99 bulk, delivered in all states east of and including New Mexico, Colorado, Wyoming and Montana.

LaPlatte, Neb., and South Point, Ohio: Minimum 42% nitrogen, 262% protein equivalent, $95 bagged, $91 bulk, f.o.b. Pryor, freight equalized with nearest producing point; $100 bagged, $96 bulk, delivered in cars or trucks to New Mexico, Colorado, Wyoming and all states to the East.

TURKEYS

(Continued from page 1)

in the market order drafts considered by the committee, they will be made the subject of regional hearings. The office of Assistant Secretary James Ralph said that while the changes may be of vital importance to certain regional members of the national committee, they do not alter the basic parts of the documents presented to the committee last week.

(A part of the draft of a proposed marketing order for market turkeys appeared in Feedstuffs Oct. 21, and part of the first hatching egg order draft will be found on page 7 of this issue.)

Last week the committee was given two documents—one for control of turkey hatching eggs and one for market turkeys. Essentially they are companion orders, and in their control effects are interlocked.

General Provisions

Included in the drafts of the proposed marketing orders, USDA said, are provisions for market research and development, regulation of grade, size and quality at the handler level, and prohibitions on unfair trade practices, and supply management. Technical drafting of the proposed orders is done by USDA, at the request of the committee, along guide lines established by the committee, according to USDA.

"General supply management provisions for turkey hatching eggs would be on the basis of allocations and allotments, prorating quantity among handlers, to effect orderly marketing conditions," said USDA. "General supply management provisions for volume regulation on turkeys would apply primarily to percentage setasides at the handler level."

The sessions of the national committee last week may be simply described as a protocol session, as, for example, when the President opens the big league baseball season by throwing out the first ball. Subsequently the big national group named a sub-committee to suggest changes in the original draft or worksheet for marketing orders — changes were suggested at the closed meeting here. It is understood that once the subcommittee has made its written suggested changes, it will pass out of formal participation in the further steps now contemplated by USDA in the form of regional hearings.

(Also see USDA questions and answers on marketing orders on page 6 to see how USDA spells out the general procedures and provisions.)

As a result of the hearing records, the Secretary will promulgate a formal marketing order which in turkeys will be subject to referendum on a national basis. Normally such orders are subject to a favorable vote by two thirds of the producers eligible to vote.

In the case of the two pending proposals, there will be instances where individuals or companies will be eligible to vote in each referendum. For example, a producer of market turkeys would be eligible to vote in a referendum on market turkeys, and he also could vote in the hatching egg referendum if he produced hatching eggs.

USDA has defined a producer as a person who assumes ownership risk in producing a commodity. It is assumed that the person or firm taking the risk in producing hatching eggs or market turkeys would be a producer for voting purposes. Presumably a contractor in an integrated set-up would be the producer since he would be taking the risk.

USDA said that an order is accepted when two thirds of the producers voting, or those handling two thirds of the volume, approve it in referendum.

Handlers of not less than 50% of the volume of a commodity must sign the agreement. However, the Secretary under certain circumstances may issue an order even if the required proportion of handlers fails to sign the agreement.

Presumably, a person or a firm could be both a producer and a handler. In the case of hatching eggs, for example, a person having eggs custom hatched presumably would be a handler also.

(While the official literature on marketing orders mentions a requirement of a two thirds favorable vote by number of producers or volume, some private observers have indicated certain possible variations in this, involving approval by "producers" and "handlers.")

The specific voting techniques in any referenda to be held on the two turkey marketing orders have not yet been reduced to writing by USDA. They will be available and reported in detail next week, it was indicated.

Under the general provisions governing the Secretary's final decision on the outcome of a referendum, there is said to be some administrative flexibility. For example, in the case of turkeys, where heavy production of birds lies in about five states —perhaps 60% of the national total of market birds—the Secretary might reverse a nationally unfavorable referendum in numbers by citing the greater weight he would give to the areas of heavy production as compared with consequential but scattered production from other areas.

Among the areas which weigh most heavily in production are California, Minnesota, Iowa and parts of the Southwest. Their votes, where flocks are large, might outweigh, in view of the Secretary, an unfavorable vote from other areas where producers are more numerous but supply a relatively minor share of the total market.

Administration of programs for commodities is handled by a board of producers, or of producers and handlers, selected by the Secretary. USDA says they are selected from a slate recommended to the Secretary by groups concerned. A board carries out regulations as issued by the Secretary. In addition to other duties, boards analyze growing and marketing conditions and make recommendations as to policies and regulations.

Under the program, primarily any board must first determine the desirable number of market turkeys for a crop year. This means that such control, loose as it may be, would be referred to the group administering the hatching egg order.

Officials familiar with conditions in the hatchery industry say they have reliable and accurate estimates of the hatching egg industry and that they can effectively examine records month by month to ascertain the exact number of turkey hatching eggs that can be delivered to incubator level. That operation would be the first bottleneck control point for USDA in policing orders.

As for the market turkey order, controls would be effected at the point of slaughter. USDA records would disclose the monthly amount of turkeys for market, and when a slaughter point exceeded a monthly

quota, the excess turkeys would be delivered to a reserve pool for the account of producers or to a surplus pool.

USDA, in explaining marketing orders in general, notes that there would be allotments of amounts which each handler may purchase or handle on behalf of producers. The program would establish the quantity that may be shipped to market during any specified period, the total quantity being allocated among handlers on the basis of past performance or the proportionate amount the handler has available for current shipment. The program would establish a reserve pool, and "equitable distribution" to financially interested parties of returns from sale of this pool. Also, it would establish methods for determining the extent of any surplus, for control and disposition of the surplus, and for equalizing the burden of surplus elimination among producers and handlers, according to USDA.

Thus there would be two set-asides —a reserve pool which presumably would be disposed of each year, and a surplus pool, from which the commodity might be diverted to the school lunch program or welfare programs or foreign markets.

Releases would be made from a pool and receipts paid to producers on a pro rata basis.

Government officials say that the pool or reserve system is a key in a program. They say that reserves could be accumulated early in the marketing year and maintained off market until later, when big buyers and producers bargain over late season prices. They contend that such a reserve would firm up the sellers' position and set a better tone for year-end seasonal markets for turkeys.

The regional hearings are expected to reflect certain regional competitive interests, and some officials here mention that there could be a lot of ifs-ands-and-buts and that the proposals for a national program could be abandoned entirely. However, others are confident that there will be favorable votes and that the whole program will go through.

Marketing order administrative board composition, which is yet to be reduced to writing, could be an important factor, along with eligibility for voting.

It is expected that questions aroused from reading the proposals made here last week will be many.

Meanwhile, a political note—it has been suggested here that Assistant Secretary James Ralph from California, in working on marketing orders, may be building up to seeking a seat in the U.S. Senate in 1964 on the Democratic ticket. Thus far, he has been successful in pushing through a marketing order and agreement for juice grapes in California. He is speeding up the sentiment he finds in the turkey industry for marketing orders. The national potato industry is about to go for production controls, although this would need new legislation. And there appears to be a push to get the broiler industry to go for marketing orders. If the assistant secretary for stabilization succeeds, he may have obtained some substantial support for any political goals and may hope to find a national audience within the agricultural community for his ideas.

Illinois Convention Will Hear Bell Co. Official

SPRINGFIELD, ILL.—One of seven speakers at the joint convention of the Illinois Feed Assn. and the Illinois Poultry & Hatchery Federation Nov. 8-9 at the Springfield armory will be Ben Smith, general merchandising manager, Southwestern Bell Telephone Co., St. Louis. His topic will be "Yes-Getters Build Customers and Markets."

Feed dealers will headquarter at the Hotel Leland, and hatcherymen will be housed at the St. Nicholas Hotel.

STUDY

(Continued from page 1)

en to the four organizations which sponsored the initial Cincinnati summit session. They are American Poultry & Hatchery Federation, Institute of American Poultry Industries, National Poultry, Butter and Egg Assn. and the National Turkey Federation.

Attending this week's meeting were 45 representatives from 15 national and regional associations. The American Feed Manufacturers Assn. was represented by its president, W. E. Glennon. Dean McNeal, AFMA chairman, was scheduled to attend but was unable to because of a bout with the flu.

Other Recommendations

Other recommendations accepted for further study are these:

1. The extent to which tax laws and their administration have served to facilitate over-expansion in the poultry industry. For example, the use of the cash method of accounting (rather than the accrual method) for tax purposes lends itself to unsound expansion through deferment of tax liability.

2. Strengthened efforts to impress upon all persons the need to improve individual operations through sound production records and accounting procedures. To this end the industry's attention is called to the availability now of such systems as developed by several industry groups.

3. The necessity for the industry to continue its efforts to promote and expand markets for poultry and eggs, both domestically and abroad.

The suggestion for study of possible legislation was listed as item No. 4 in the conference release.

"Tremendous Losses"

At the conference opening, John R. Hargreaves, Carolina Poultry Farms, Inc., Federalsburg, Md., and chairman of the IAPI board, stressed that "the poultry industry is suffering tremendous losses—two kinds of losses. We are exhausting our financial resources and consuming our working capital. We seem to be presently headed for economic destruction—bankruptcy in plain language. And what's more, we are dissipating our good name and reputation."

He emphasized that the industry from coast to coast "is looking to this meeting as a turning point. Never before has such long-standing crisis and widespread confusion created such an urgent need for constructive leadership as today."

"Splinter activities" and "erratic calls for help" have threatened to undermine the status of the industry in the eyes of Congress, the administration, financial circles, retail areas and the community at large, he said.

The industry faces the distinct possibility of federal legislation in chickens and eggs when Congress reconvenes, Mr. Hargreaves said, and it appears that marketing orders for turkeys will have reached the referendum stage by late December.

To provide background information for delegates, three economists appeared on the first day's program: L. H. Simerl, extension economist in marketing at the University of Illinois; Dr. William E. McDaniel, chairman of the department of agricultural economics, University of Delaware, and Edward Karpoff, U.S. Department of Agriculture. (See story on page 4.)

They also heard a discussion of cash vs. accrual tax accounting by a Kansas City accountant, Richard Julian.

During the evening, groups of delegates were assigned as task forces to develop thoughts and recommendations on the following subjects: Credit and finance, labor legislation, tax revisions, marketing, agricultural act of 1937 as amended and potentials under new legislation, terminology, direct production control legislation, unfair trade practices, promotion and research.

Committee chairmen reported conclusions and recommendations at the following morning's session, and the four listed above were agreed upon as the ones requiring most urgent attention.

SOY

(Continued from page 1)

mills in the northwest Arkansas poultry area.

A good deal of nutrition research and other information from colleges and other sources on use of unextracted soybean meal has been made available previously, but this is the first report from USDA on an overall study of the feasibility of using full-fat soybeans in feeds.

Comparisons of the two high energy sources usable in mixed feeds for poultry were made. Costs, calories per pound, freight savings, advantages of dry granulated vs. liquid ingredient forms and benefits from using locally produced materials were evaluated, USDA said.

Added calories in mixed feeds can come from either the oil in the unextracted meal or the feed grade fat.

"The relative cost for calories in the finished feed was the deciding factor in every feed-making operation studied," USDA said. "Study of these costs showed that feed mixers had potential processing plus profit margins for making cooked unextracted meal from local soybeans that ranged from $2.76 to $13.62 per ton in the Arkansas area in the fall of 1960.

"Market analysis also shows that even with a wide difference in market prices for feed grade fat and soybean oil (4¢ or more per pound), some feed mixers may still be justified in using cooked soybean meal with the oil left in it."

Findings have been published in a preliminary report, "Cooked, Unextracted Soybean Meal: Its Economic Feasibility in Poultry Feeds," ERS-32. A free copy may be obtained from the Division of Information, Agricultural Economics, U.S. Department of Agriculture, Washington 25, D.C.

CONTROLS

(Continued from page 4)

ing more per pound for dressed broilers?

4. With Quotas Being Assigned to Egg Producers, Hatcheries, Growers and Processors—(a) What arrangements will be made for newcomers to enter the industry? and (b) What arrangements will be made for firms to increase in size for the purpose of increasing efficiency?

5. If Quotas Can Be Sold, Their Values Will Be Capitalized—In other words, a value will automatically accrue to a quota. If the quota is sold, the original seller will receive the benefit.

6. Will a Federal Marketing Order or Production Control Program Eliminate the Cost Advantages of One Area Over Another?—Under a federal marketing order, prices for broilers will tend to seek a uniform price level within the entire country. If Region "A" now has a cost advantage of 1¢ lb. over Region "B" in producing and marketing broilers, this advantage may and will probably continue after the federal program is in effect. Is this what you want to happen? If not, what will be done about it?

Neutral Position

Dr. McDaniel said he was not advocating or arguing against federal broiler supply controls. "My sole objective is to create a better understanding of present federal agricultural programs and some difficulties that must be squarely faced by the broiler industry if any type of supply control program is to be initiated," he said.

"There are advantages and disadvantages to government controls in any industry. The advantages of government controls might outweigh the disadvantages to one segment of the industry, while the disadvantages might outweigh the advantages to another segment of the industry."

Definitions, Differences

Marketing agreements, marketing orders and marketing quotas were defined and differentiated by Dr. McDaniel and L. H. Simerl, University of Illinois agricultural economist. Both marketing agreements and marketing orders (established by the Agricultural Marketing Act of 1937) are economic and legal instruments which can be used by an industry group to influence the flow of a particular crop or commodity to market and thereby raise prices to producers. But they have their differences.

A marketing agreement is a voluntary contract between the secretary of agriculture and the handlers of a particular agricultural commodity. It is binding only on those who enter into the agreement and, according to Dr. McDaniel, "works best in situations where there are relatively few producers or handlers in a concentrated area."

A marketing order is issued by the secretary of agriculture and its provisions are binding on all handlers in the specified production or marketing area.

Marketing agreements and orders have been used for fluid milk and fresh fruits and vegetables. Dr. McDaniel explained that no poultry or poultry products, except turkeys and turkey hatching eggs, are included in the list of commodities for which marketing orders may be established. Establishment of a federal marketing order for broilers would require new federal legislation.

"The disadvantage of a marketing agreement," Dr. McDaniel noted, "is that some producers or handlers may not sign the contract. When the amount marketed is decreased and prices go up, those who are not under contract will increase production and prices will again be forced down and, thus, the purpose of the marketing agreement is defeated."

Prices Not Established

Dr. McDaniel emphasized the point that "marketing orders (as used in fruit and vegetable control) have not established prices that must be paid to producers or to other handlers of the product. The effect on price has been through control of supply and quality sent to market." Fruit and vegetable marketing order regulations have included controls over such factors as: Maturity, grade, size, quality, kind and types of packing and quantity, with quantity controlled by leaving a portion of the crop unharvested, stripping green fruit from trees and marketing only specified grades.

"Many advocates of general production controls over farm products often cite the milk marketing orders as demonstrating that production controls can be effective in raising prices," Prof. Simerl noted. "The fact is, however, that federal milk marketing orders do not even attempt to control either production or the supplies going to any market. In fact, the law specifically prohibits such limitations."

Marketing Quotas

Prof. Simerl explained that marketing quotas can be applied to a commodity only if two thirds of the producers voting in a special referendum approve such a plan. Under marketing quotas, each producer is assigned an allotment, computed on either a total yield or an acreage basis. Once approved, marketing quotas become binding on all producers. Producers who market in excess of their quotas, regardless of whether they voted for or against the program, are penalized.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
August 19	1,169	354	794	766	77	838	1,822	2,034
August 26	1,211	294	665	751	69	761	1,529	2,246
September 2	1,182	319	686	693	112	744	1,580	2,085
September 9	1,240	268	736	613	57	787	1,623	1,914
September 16	1,166	256	683	658	74	643	1,518	1,945
September 23	674	269	655	621	72	639	1,407	1,918
September 30	1,126	291	625	478	57	649	1,379	1,937
October 7	1,137	253	644	494	56	573	1,355	1,667
October 14	1,058	219	600	449	66	607	1,259	1,853
October 21	953	236	432	456	18	593	1,184	1,888

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
August 19	825	458	3,408	457	6,555	216	3,816	2,525
August 26	985	352	3,313	444	6,055	203	3,725	2,538
September 2	807	340	3,205	380	6,017	243	3,551	2,402
September 9	818	381	3,205	385	6,129	220	3,401	2,225
September 16	817	249	3,130	363	5,834	199	3,343	2,134
September 23	682	369	2,989	345	5,661	216	3,286	2,098
September 30	736	247	3,029	379	5,712	156	3,376	2,156
October 7	739	245	2,979	348	5,325	151	3,388	2,001
October 14	712	273	2,889	345	5,455	157	3,372	1,944
October 21	711	246	2,738	322	5,274	174	3,204	1,906

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1961	Total 22 areas 1960
August 19	4,135	433	2,368	310	208	1,191	34,759	30,816
August 26	4,177	403	2,340	351	181	1,091	33,604	30,035
September 2	3,996	378	2,209	298	184	1,098	32,509	29,496
September 9	3,765	381	2,056	269	188	1,081	31,742	29,246
September 16	3,713	368	1,922	225	170	979	30,389	28,624
September 23	3,564	382	1,816	282	141	980	28,966	28,656
September 30	3,616	402	1,782	234	176	1,067	29,610	28,551
October 7	3,579	394	1,666	296	176	1,082	28,548	28,442
October 14	3,468	407	1,632	291	141	1,049	28,246	28,355
October 21	3,441	337	1,700	261	78	943	27,094	28,165

AAFCO

(Continued from page 7)

(Making the rounds with an inspector and talking with farmers at a crossroads store can be a revealing experience.)

Interstate cooperation — Are you willing to sacrifice a favorite concept in order to permit development of practical uniform regulatory policies? Do you answer inquiries from other control officials promptly in a helpful manner?

Regulatory policy—What information should go on a label? Could some items be left off? Should others be added? Should a very rigid format be required or may considerable variation be permitted so long as pertinent information is given? Should the control official be highly paternalistic, leading the farmer by the hand, so to speak, or should he see that feeds are labeled in an adequately descriptive manner and let the feeder decide what he wants to buy? How far may the principle of "he who governs least governs best" be applied to feed control? Is it necessary to spend time and effort on things that really matter little? Should one worry if a feed contains a fractional percentage of an inert carrier for a drug or other additive?

RAIL RATES

(Continued from page 6)

before the Interstate Commerce Commission when hearings are held.

Rep. Cooley said Mr. Murphy advised him in a letter that "we believe substantial benefits will accrue if this proposal is adopted, and, therefore, it is our intention to support the proposition."

Mr. Murphy also said the department is going to suggest establishment of "single"-car rates at levels "which will bear reasonable relationship to the proposed multiple-car rates." These single-car rates would be of benefit to those poultry people who are not in a position to take advantage of the multiple-car rates.

HATCHING EGG

(Continued from page 7)

nated in (1) hereof, or whose handling of eggs in such period was not representative and who can establish that he has a plant and facilities for the hatching of hatching eggs and an established available supply of eggs may be assigned an allocation base by the committee in accordance with regulations recommended by the committee and approved by the Secretary, which shall take into consideration the hatching capacity of the establishment of such handler and his established available supply of hatching eggs for the allotment year.

(b) Application. Each handler seeking an allocation base for the allotment year shall, not later than six weeks preceding such allotment year, or prior to such date as the committee may prescribe for the initial allotment year, file with the committee an application therefor on forms prescribed by the committee, which shall provide all pertinent information required by the committee.

(c) Committee verification. The committee shall check and determine the accuracy of the information submitted pursuant to this section and shall be authorized to make a thorough investigation of any application. Whenever the committee finds an error, omission, or inaccuracy in any such information, it shall correct the same and shall give the person who submitted such report a reasonable opportunity to discuss with the committee the factors considered in making the corrections. In the event of correction of a base, the allotment assigned to the handler pursuant to paragraph (d) of this section shall likewise be corrected.

(d) Handler allotments. Each handler who has an allocation base for the allotment year shall be assigned an allotment of hatching eggs which he may handle during the allotment year, computed by determining the percentage which such handler's allocation base is of all allocation bases of all handlers and multiplying the desirable hatch as established by the Secretary for the allotment year, by the percentage so computed. The result shall be the handler's allotment for the allotment year and no handler shall handle a greater number of hatching eggs in the allotment year than the total quantity so allotted to him for handling, provided, however, that a handler who does not handle his total allotment of hatching eggs within an allotment year, may carry over such unused allotment into the succeeding allotment year, but not more than such percentage of such allotment as may be prescribed by the Secretary thus may be carried over.

(e) Allotments by periods. Whenever the Secretary finds from the recommendations and information supplied by the committee, or from other available information, that such regulation may tend to effectuate the declared policy of the Act, he shall establish, within the quantity or allotment to be handled by all handlers during an allotment year under section 38, the portions thereof to be handled during quarters or other periods of the allotment year by all handlers and the committee shall prorate such amounts among the handlers in the manner prescribed by section 39 for apportionment of the allotment for the allotment year.

(b) Transfer of bases and allotments. Allocation bases and allotments shall not be transferable except as authorized by regulations recommended by the committee and approved by the Secretary and then only in the following circumstances:

(1) In the event of a transfer of the hatchery, to the person acquiring and continuing the use of such hatchery.

(2) The whole or any part of a base or allotment may not be transferred to any other hatchery, except where fire, flood, or other similar occurrence prevents the use of such hatchery for all or part of the allotment period.

Prohibition against handling in excess of allotment—No handler shall handle hatching eggs in excess of his allotment or handle hatching eggs without an allotment. Provided, that a handler with respect to allotments made under paragraph (e) above may use the unused portion of his allotment for the handling of hatching eggs in a period within the allotment year but only during the ensuing period within such year, and to the extent allowed under the proviso in paragraph (d) a handler may handle in the ensuing allotment year such unused percentage of his allotment as may be authorized by the Secretary in paragraph (d).

Exemption from regulation — Whenever the secretary finds from the recommendations and information supplied by the committee or from other available information that the handling of hatching eggs by a handler or by handlers of limited quantities or solely from breeding purposes absent regulations will not interfere with the effectuation of the purposes of the order or the Act, he may by regulation exempt handlers engaging in such quantity or type of handling as he may specify in such regulation from handling restrictions to the extent that he determines that such exemption will not interfere wtih the effectuation of the purposes of the order.

QUESTIONS

(Continued from page 6)

the producers, who produced during a representative period more than 50% of the volume of the commodity, request a termination. An order may be terminated, or suspended, by the Secretary also when he finds it obstructs or no longer tends to achieve the declared policy of the enabling legislation.

Q. Can a marketing order be amended?

A. Yes. After the program is established, amendments may be recommended to the Secretary of Agriculture by any interested party. To amend an order, the same general procedure is followed as for setting up the marketing order, with public hearings, a recommended decision and opportunity for any interested party to submit exceptions, then a final decision by the Secretary, and a referendum of producers.

Q. How is the board selected that administers the self-help program?

A. The board usually is selected by the Secretary of Agriculture from candidates nominated by producer and handler groups at meetings held for that purpose. Members serve for terms as specified in provisions of the marketing order.

Q. How big is the board?

A. The number of members is specified in the marketing order. An administrator may be hired by the board to carry out its directives and manage the office.

Q. Who pays for administering the program?

A. The Secretary of Agriculture authorizes administering boards to collect assessments from handlers at a uniform rate for expenses.

Q. What regulatory provisions may be included in a marketing agreement or order?

A. Commodity marketing orders may specify grades, size, quality, pack or maturity of the commodity shipped to market. One or any combination of the following may be included: Regulation of quantity of the product which may be shipped to market during a specified period; establishment of a reserve pool and equitable distribution of returns from its sale; surplus control and fixing size, capacity, weight, dimensions or pack of containers used in marketing. In addition, provisions to prohibit unfair trade practices and to establish price posting for handlers may be included in a marketing order. Marketing research and development may also be authorized along with other provisions.

Q. How is the quantity of the commodity which may be shipped to market determined?

A. The total quantity is allocated among all handlers under a uniform rule on the basis of past performance of a handler, or the proportionate amount of the commodity the handler has available for current shipment.

Q. What does surplus control mean?

A. This involves determining the extent of a surplus, providing for the control and disposition of the surplus and for equalizing the burden of surplus elimination among producers and handlers.

Q. How can a surplus be handled?

A. Two examples would be by diversion to uses that will not compete with the primary market, or by selling in the foreign market. Some commodity surpluses have been diverted to use in the School Lunch Program and to welfare distribution.

Q. What is handler price posting?

A. Each handler is required to file selling prices, and to sell only at those prices. Handlers may change the prices at any time but adequate notice must be given.

Q. What are market development and research projects?

A. These are designed to assist, improve, or promote the marketing, distribution and consumption of the commodity.

Q. How are they paid for?

A. From the administrative funds collected by assessments on handlers.

Q. Are there any regulations for the board?

A. Yes. They are required to keep books; make audits; analyze growing and marketing conditions; give notice of meetings, regulations and policies, and must provide information requested by the Secretary of Agriculture.

Q. Can producers be regulated by quotas on their production or sales in a marketing order?

A. No. The Department of Agriculture recommended that farmers be permitted to use this authority in marketing orders but Congress did not provide it. Congress did provide that the Secretary may consult with committees of producers to determine the need for new legislation, and to make recommendations for legislative changes if there is a need for them.

Q. Are there any exemptions from a marketing agreement or order, or from regulations issued under the order?

A. The marketing order usually specifies the types of shipments which are not covered and not subject to regulation.

Q. How is a marketing order enforced?

A. There are three types of legal action which may be taken against a person who violates an order: Civil action to obtain an injunction; civil action for forfeitures, and criminal action.

MARKETS

(Continued from page 2)

plants maintaining at least five-day operations and an occasional unit running six days.

Hog and pig feed business holds the leadership in the over-all sales picture, and the total seems little affected by the seasonally increased hog marketings. Reflecting the heavier sales, hog prices slipped to the lowest level since September of last year. Marketings are expected to taper off during the balance of the month, with a renewed surge to a peak in November.

Cattle feed shipments are accounting for a pretty good share of the volume at some plants. Feed men noted a cutback in egg feed outgo which they attributed to the current low returns on eggs.

Most price lists were unchanged to $1 higher last week, and present indications point to an equal or stronger upturn on the new lists this week end.

Delmarva

Every year Delmarva feed mills get in a better position to procure the basic livestock feed ingredients—corn and soybean meal. Bean combines, now getting into the field in full swing, are headed for the largest harvest on record. Maryland in the past 10 years has had a 217% increase in bean production.

The average price of broiler feed last week was $89.17 per ton, just a few cents more than the week before. The average price of broilers did pick up slightly, going to 13.07¢ lb., compared to 12.88¢ the week before. A ratio of 2.9 was maintained for the past two weeks.

Hog, dairy, and laying hen feed prices all advanced just a bit during the week. There were no significant changes in the price of feed ingredients or feed costs.

Ohio Valley

Demand in the feed business was steady this week.

Dairy feeds are in good demand, and there is a steady increase in demand for cattle feeds. Turkey feed demand has dropped sharply, and broiler feeds are completely "off."

In the retail market, prices remain steady for poultry and eggs.

Pacific Northwest

Oregon, Washington and Idaho feeding demands this week appeared to increase seasonally despite heavy marketings of turkeys and a slackening in regional broiler production. Cool, rainy weather prevailed in principal feeding districts where buying interest was largely on an immediate or prompt shipment basis. However, trade interests at Portland said that buying interest was considered to be generally broader.

Wholesale formula feed prices this week were adjusted higher to compensate for recent price gains posted by principal ingredients.

Portland live frying chicken prices advanced 1¢ lb. at the inside range for the second consecutive week. No. 1 fryers are now being quoted at 15¢ to 19¢ lb.

Lower outside market prices pressured Willamette Valley egg listings, which declined 2¢ to 3¢ doz. at the producer level this week.

Northern California

Feed manufacturers report that business is off a bit from last week, although it is felt that this is a seasonal slump which is usually experienced at this time. Mills continue to work a normal 40-hour week.

Turkey feed sales have decreased with the finishing of birds for market. Poultry feeds are holding up well.

The demand for cattle and dairy feeds has increased. The demand for cattle feed is attributed to the movement of cattle from the range into pastures and feedlots.

Mean temperatures were above normal in much of the northern part of the state last week and are responsible for drying up grazing land. This has stimulated supplementary feeding of livestock.

The government has reduced milo prices to alleviate high feed grain costs to feed mixers.

Southern California

An unexpected heat wave with temperatures over 100 degrees forced feed sales and demand to decline considerably during the week.

Large and medium egg prices decreased 2¢ per dozen while small egg prices declined 1¢ per dozen. Most feed dealers and poultrymen in this territory anticipate a further downward price adjustment within the next 30 days due to the increased number of layers and additional egg production.

The broiler situation has not improved much and current prices are about 13¢ lb., f.o.b. ranch, and this is still below production cost. Broilermen are hopeful for some recovery starting in late November or December.

Turkey prices improved about ½¢ lb. this week. Hens are selling at 18½¢ lb., f.o.b. ranch, while toms are trading at 16½¢ lb. Several ranchers are selling birds as soon as they are ready because they are afraid of further price declines during the heavy holiday movement. Most feeders and dealers are watching for reactions to the proposed government marketing quota system and, thus, plans for replacing turkeys for next season are being delayed in many instances.

Feed prices remained unchanged as milo and corn prices leveled off.

The cattle processors should be back to work next Monday after a 15-day strike. During this period beef prices had declined as meat packers were not buyers unless the feeder agreed to hold the cattle until the strike was settled. Feedlot managers feel the outlook is promising for better prices.

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Commercial Solvents Earnings Increase 8%

NEW YORK—Net earnings of Commercial Solvents Corp. for the first nine months of 1961 continued to show an improvement of 8% over last year, according to Maynard C. Wheeler, president.

Third quarter net earnings were $1,090,344, or 38¢ per share, as compared with $1,019,099, or 35¢ per share, for the same period in 1960. Nine month net results for 1961 were $3,934,521, or $1.37 per share. This compares with $3,637,277, or $1.27 per share, for the first three quarters last year.

Commercial Solvents' third quarter sales were ahead of the corresponding 1960 period. The total of $15,361,382 compared with $14,468,349 a year ago, Mr. Wheeler pointed out. The 1961 nine month sales volume was $47,979,622, as against $48,853,861, for the same period in 1960.

Agriculture in Africa Feed Club Talk Topic

KANSAS CITY—The Kansas City Feed Club will hear a talk and see slides on hunting and agriculture in Africa at the Nov. 7 meeting when Leo W. Roethe, president of the National Agricultural Supply Co., Fort Atkinson, Wis., will speak. The meeting will be at the Hotel Muehlebach.

Mr. Roethe, who visited Africa last summer, will show 400 slides of the African cattle industry and agricultural methods. He will also show some animals he shot while hunting.

Mr. Roethe has been president of National Agricultural Supply 16 years. He was associated with the publication Hoard's Dairyman before joining the company.

Arrangements for his talk were made by Richard M. Shoop, Albers Milling Co., Kansas City, and reservations may be obtained from Richard Kuelpmann, Ralston Purina Co., feed club secretary. The club will also elect officers for 1962 at the meeting.

GRAND OPENING

SCRANTON, N.D.—Grand opening of the Scranton Grain Co.'s new 170,000 bu. elevator has been held. With the new facility, the company now has a total storage capacity of 730,000 bu.

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